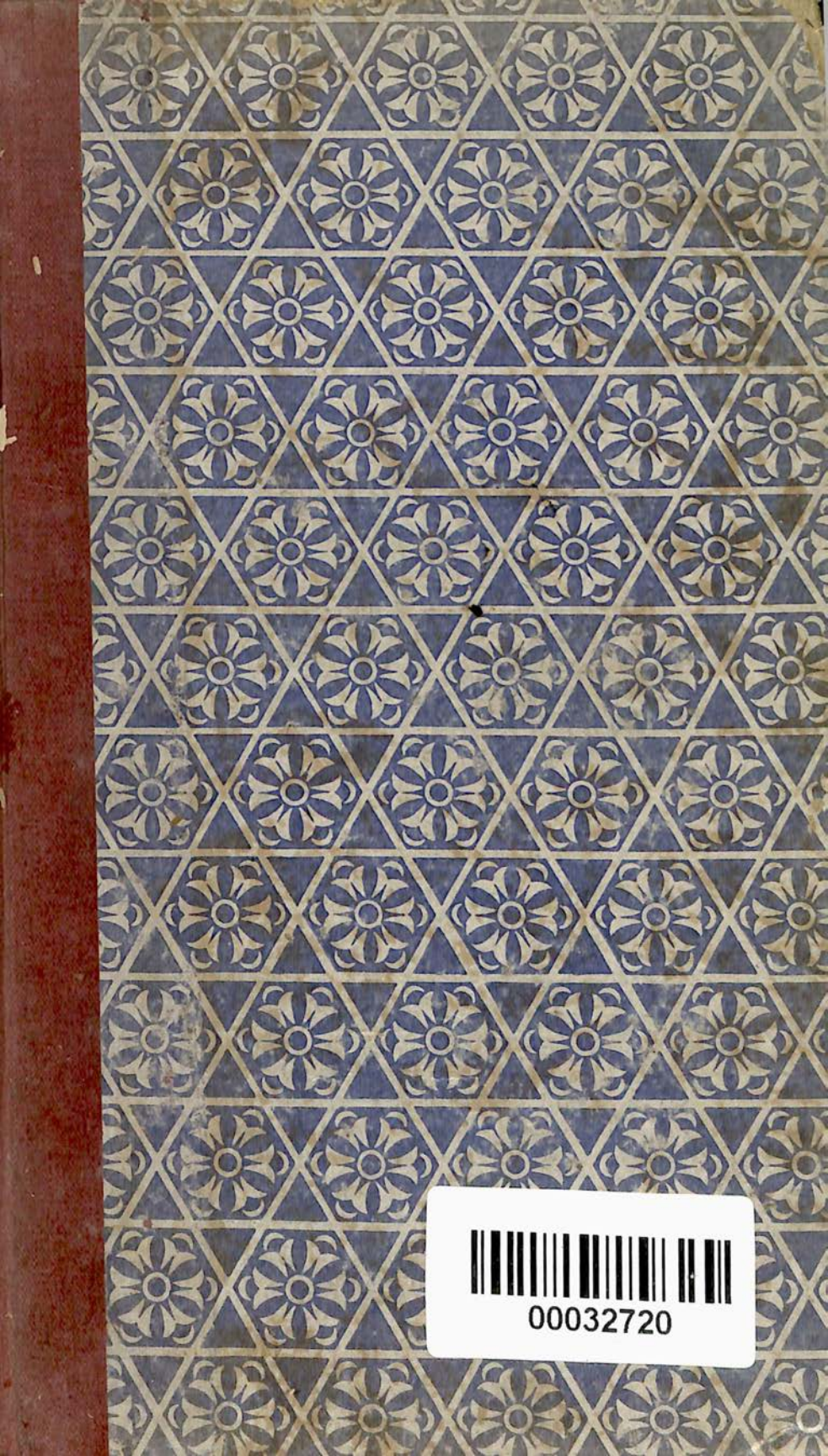
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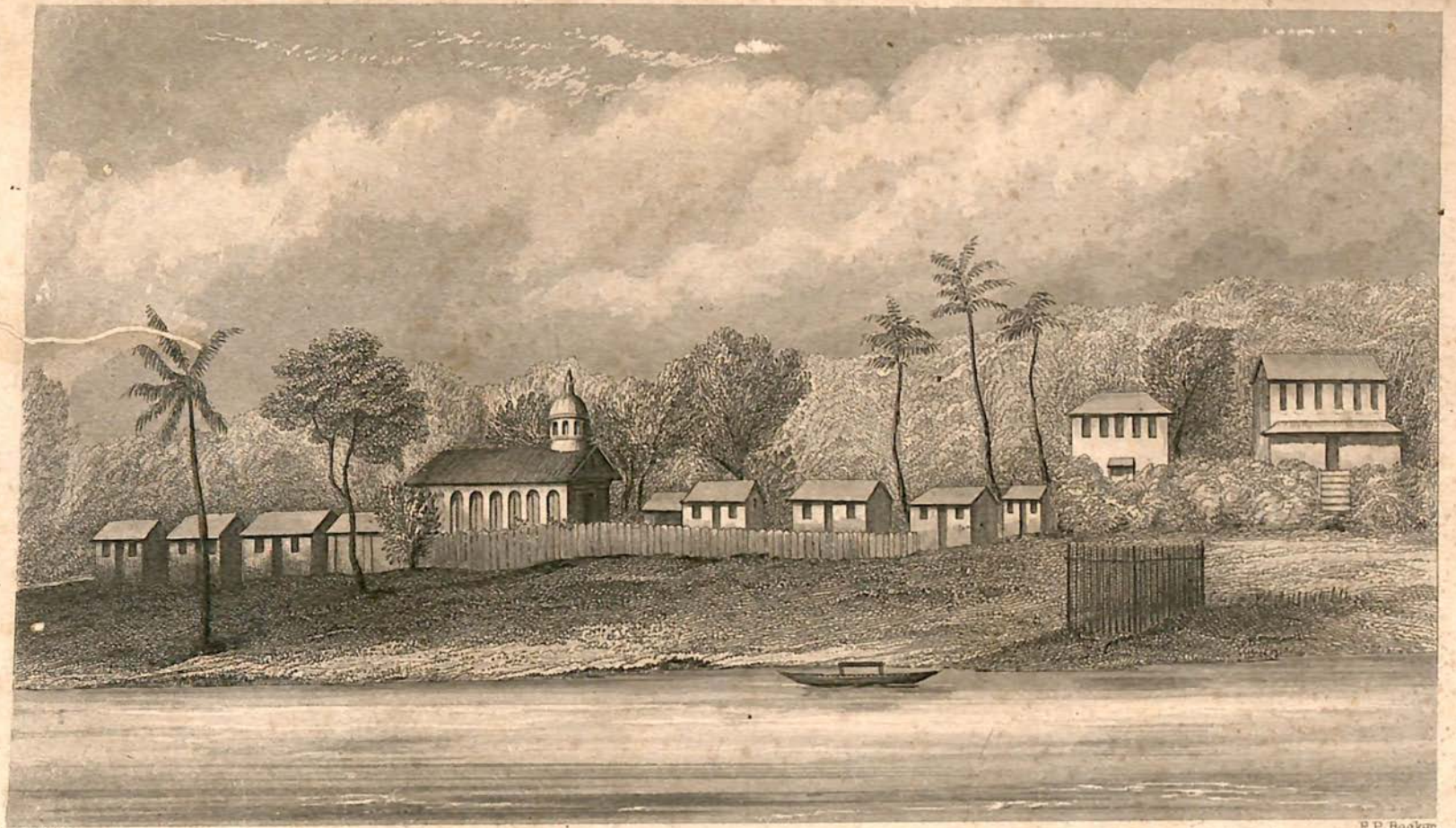

W. Dance. F.P. Becker.

MISSION OF THE CHURCH.

MISSIONARY SOCIETY AT BARTIKA GROVE, ON THE ESSEQUIBO.

THE

HISTORY OF BRITISH GUIANA.

COMPRISING

A GENERAL DESCRIPTION OF THE COLONY;

A NARRATIVE OF SOME OF THE PRINCIPAL EVENTS FROM THE EARLIEST PERIOD OF ITS DISCOVERY TO THE PRESENT TIME;

TOGETHER WITH

AN ACCOUNT OF ITS CLIMATE, GEOLOGY, STAPLE PRODUCTS, AND NATURAL HISTORY.

32720

BY

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HISTORY OF BRITISH GUIANA.

CHAPTER I.

REVIEW OF THE PAST HISTORY—THE PRESENT CREOLE POPULATION; THEIR HABITS, CHARACTER, AND SOCIAL POSITION—THE ALTERED CIRCUMSTANCES OF THE PLANTERS; THEIR POSITION AND PROSPECTS—THE LINE OF POLICY PURSUED BY THE BRITISH GOVERNMENT TOWARDS THE WEST INDIES—CONCLUDING REMARKS.

I HAVE endeavoured in the preceding volume to give an account, however imperfect, of the origin and progress of the colony of British Guiana. The reader has beheld it in its original condition of primeval repose, with its rude and simple inhabitants; he has seen it next overrun by bold and daring adventurers, eager in their search for gold; he has witnessed that generation displaced by another, engaged in the more sober and practical pursuits of barter and agriculture, under whose industrious hands arose the factory and the fort, for asylum and protection; and he has marked society gradually widening its circle and extending its influence, until out of this chaos of confusion and uncertainty the outlines of a constitution

were sketched, to be filled in by the suggestions of experience, shaping it by degrees into its present form. Few colonies have experienced such hardships in their infancy, or struggled to maturity through such dangers and difficulties. Nation after nation visited the shores of British Guiana in succession, each leaving some traces of its distinctive character behind, to be ultimately harmonised or absorbed by the perseverance of Great Britain, whose more steadfast and enlightened policy is now being slowly developed over its surface. That the colonists, emerging from the vicissitudes of the past, and still suffering from the consequences of so many changes in the social and official system, should be to some extent distrustful of the present and doubtful of the future, is natural, and perhaps, inevitable; but the importance of union and exertion is every day becoming apparent, and to the energies of the people, directed to the maintenance of our institutions and the extension of our resources, we may finally look with confidence for the firm establishment of order and prosperity.

In estimating the results of the changes the colony has undergone, we shall have occasion to lament the existence of some temporary evils they have bequeathed to us; but we shall find them considerably outweighed by the amount of good we have permanently secured.

Amongst the alterations that have taken place in the social and political condition of the country, perhaps the most remarkable is that which has been effected in relations between the African slave and his creole descendant. Introduced into this colony about three centuries ago, the slave has passed from a state of oppressed ignorance to the position of a thriving and independent peasant. He has gone through bondage, toil, and degradation; he has been brought into contact with several civilised races; and his character and habits,

his physical as well as mental features, have been modified to a surprising extent. The creole nation (for so we may now term it) stands midway between its African progenitors and its European teachers. The individuals of that nation are placed in a country suitable to their health, their tastes, and their capabilities, and may fairly be adduced as an example of a happy peasantry; if the absence of want, and the means of enjoying remunerative employment may be admitted to constitute the happiness of that class. Inheriting the dark skin of his forefathers, the deep black colour formerly so common to the African has faded to a lighter shade. It is a subject of common remark, that few very black negroes are now to be met with. Formerly it was held, *ceteris paribus*, that the deeper the colour, the stronger was the constitution of the African; but it does not appear that the present creole race are more sickly or delicate than their progenitors. They may, generally, be considered healthy, strong, and active. Their features, too, have undergone a marked alteration, approaching in the present day much nearer to the European type; the nose is straighter and less flattened, the mouth smaller, the lips thinner, the hair less crisp and woolly. Many of these ethnological changes may be attributed to intermarriage with individuals remotely connected with Europeans; but even in those of pure black colour the same transition appears. I have repeatedly seen the most delicate and regular features in a person entirely black, and sometimes have noticed a Roman cast of countenance. The figures of the men and women are in general very good; they have finely-formed backs, shoulders, and arms. There is a tendency to the curved shin in the men; and in general, both in men and women, the legs and feet are defective.

The negro creoles have not the same steadfastness of

purpose or dogged resolution that were so prominent in the character of the African. Quicker in perception, and more apt in intelligence, they have not, perhaps, the same sincerity and frankness; a little better educated, and somewhat more civilised in manner and in mind, they are less devoted in their attachments and less faithful in their affections; yet, although more instructed in the ways of life, they are still far from being either discreet or prudent in their conduct. They are lively and confident, but capricious, and are fond of change; attracted by novelty and excitement, they are easily led away by trifles and amusements. Although vain to an incredible degree, they are deficient in pride; and habituated to devotional practices, and fond of church-going and religious meetings, they are, nevertheless, wanting in what constitutes the elements of true religious feeling; and, as yet, do not appear to have a proper sense of its highest social obligations. In many aspects, their character exhibits anomalies and perplexing contradictions. Passionately fond of music and dancing, in which they excel, and in which they possess an instinctive talent, they are by no means constitutionally a merry race. Undoubtedly good-natured and well-disposed, they are easily irritated, and are capable when provoked of being saucy, obstinate, and wilful. They are active, but not industrious; indeed, their indolence and apathy attract the notice of all observers; but for any particular object, they can be roused to considerable exertion. They may easily be led; cannot be driven; and are always more accessible to persuasion than to argument or violence.

The people of the country districts differ somewhat from those in the towns. The former are more simple in their habits and tastes, and show a disposition, especially in the remoter places, to revert to their original

state of indolent apathy if not to lawless barbarism, while those in the vicinity of the towns exhibit a ready inclination to adopt the customs and even the vices of civilisation. Generally speaking, they are temperate in their diet; but their morality is at a very low ebb.

Unlike the peasants of other countries, they have no national or peculiar costume. Every individual who makes any pretension to respectability, attempts to imitate the dress of the white or upper classes. Hence it strikes the stranger with surprise to see the men decked out on Sundays and holidays in cloth coats, French hats, strapped trousers, and glazed boots; whilst the women exhibit themselves in muslin dresses, bonnets of present and past fashions, parasols, gloves, &c.; but all this is good for trade, does no one any harm, and acts as an incentive to industry. This disposition for finery, however, is much less prevalent than it was immediately after the emancipation, and in most of the country districts, whether from indifference, economy, or poverty, too many of the people appear in society more slovenly and ill clad than becomes their character or circumstances. But it must be remembered, that however prosperous their condition was after the emancipation, circumstances have of late materially altered. They have to work hard for reduced wages; a labourer seldom now earns more than two dollars a week, and is unable to save much, if anything, out of his weekly wages. Naturally disinclined to labour, the remuneration offered is not sufficient to excite his cupidity or ambition; hence perhaps one cause of the falling off of creole labour.

One of the earliest objects of ambition displayed by the negro labourers after the emancipation, was the possession of freehold properties, where, undisturbed by the white man, they could reside under the shade of their own palm-trees. By a little forced industry they

knew they could readily earn the necessary means. Neither employment or wages were wanting to enable them to accomplish their desires. Small lots of land were eagerly sold to them by embarrassed proprietors of estates, and cottages were rapidly raised throughout the colony. In the county of Demerara, from 1834 to 1842, the number of freehold properties was 2943, containing 3017 families and 14,127 persons. In the county of Essequebo the number of cottages was 379, containing 338 families and 1779 persons. In the county of Berbice the number of houses was 1184, containing 1223 families and 4646 persons: making a grand total in the three counties of 3322 houses, 3355 families, and 15,906 persons. It would, I think, be difficult in any country to produce so unexampled an advance of independence and prosperity in so short a time, considering the class of persons by whom it was exhibited. Since 1842 the number of freehold properties in the villages and hamlets has continued to increase. According to the last census, there were in the county of Demerara 5672 houses possessed by the negroes; in the county of Essequebo 2254 houses; and in the county of Berbice 3226 houses; making an aggregate of 11,152, which have been estimated at the value *of nearly a million sterling!**

Besides this, numerous estates have been purchased by a joint-stock company of negro proprietors, who, after feeble and unsuccessful attempts at cultivation, have abandoned their plans, and the projects have ended in fruitless wrangling and envious discord. Many of the lands purchased have been converted into villages, and the high-sounding names of Victoria, Albert Town, Queen's Town, Buxton, Stanley Town, have been applied to them. No one who has ever visited these negro villages can fail to remark the disgraceful and slovenly

* Demerara after Fifteen Years of Freedom. By a Landowner.

appearance presented by the wretched assemblage of scattered and unseemly cottages. There is no uniformity of plan in their arrangement or construction; no decent road or comfortable pathway leads to any of them. It is a matter of surprise to know how the owners contrive to enter them. Placed at angles that would defy the mathematician to define, the half-built and irregular-sized wooden cottages present the same appearance of discord that is manifested by their owners. Slight wooden frames indicate the abortive intention of a house; others are boarded in and roofed, but the interior is a grand open space, or it may be that one small room is completed to contain the proprietor and his family with all their stock in trade; a few tubs outside, and perhaps a puncheon with a board or dried palm-leaf connected with the roof to collect the rain-water, and a few naked children in the trenches around, afford an indication that the freehold property is tenanted. In other instances, a frail hut has been partially constructed, but for the present abandoned by the owner, who leaves it to tumble down, or to be stolen piecemeal by his neighbours. Some few are mounted on brick pillars, and present an uncomfortable and insecure appearance—as if ashamed of their pretensions to superiority. It is rare to notice a good substantial house or clean establishment. The grog-shop is often the best that is to be met with. The Portuguese shops offer no exception to the others; they are as slovenly and dirty-looking as the cottages of the freeholders; a few pigs and poultry, with numbers of lean and yelping curs, prowl about with the children. There are no enclosures, no palings or hedges, and no gardens. A few plantain-trees, ochres, tannias, and other esculents grow wild about the muddy plots and grassy beds that surround the disorderly houses. There is no efficient drainage for the villages, nor any attempt made at sewerage. In rainy weather the water accumulates in

the trenches and about the houses in large pools, and not unfrequently the sea or river breaks in, and the whole village is submerged, the dreary houses with their improvident tenants studding the mass of muddy water in chaos-like confusion, giving one a general idea of a small town being washed away or travelling by water. It would be unfair, however, to omit to state that a spacious church is frequently to be found in these villages, and by its superior construction and more protected condition offers a pleasing contrast to the straggling buildings amongst which it is reared.

But this sketch of negro life would be imperfect without a glance at the proprietor and his family.

He either idly spends his time seated staring vacantly out of an aperture, or it may be a window of the house; or dressed up extravagantly, but not becomingly, strolls about with a few hungry dogs; if he can afford it he purchases a cheap horse, which "has to cut its own grass," and consequently soon becomes emaciated, on which he takes violent exercise along the roads; or perhaps he is rich enough to buy a worn-out gig, to which the horse is attached by complicated harness, and a drive is taken by himself and lady. If left at home, his wife, or *quasi* wife, quarrels with her neighbours, and scolds and severely beats the children; or, if in a quiet humour, will lay her head in a neighbour's or child's lap, and allow her hair to be disencumbered of a few of its tormenting inhabitants.

In regard to their habits, the creole negroes offer a singular study to the philosopher. They are really quite a paradox to political economists. Ignorant, uneducated, and at the bottom of society, they are yet great boasters, and full of self-conceit. Unable, as yet, to appreciate the advantages of liberty and industrial independence, they affect to illustrate their condition by their self-

pretensions to good breeding and gentility. A black woman, carrying starch or any other article about for sale, is hailed, when required, by such expressions as, "Ho, lady with the starch!" while an unpretending fisherman, vending crabs or other fish, is addressed, "Stop, gentleman with the crabs!" Servants in search of situations are introduced to your notice by a statement, that a gentleman or a lady down stairs has come to see if you require a butler or cook. When two persons in the position of servants or labourers meet one another, the first inquiry generally is, "How is your lady?" "How is de *fambly?*" The term wife is considered rather derogatory than otherwise; in fact, a married man will repudiate the vulgar appellation, and declare, "She no me wife, she is my lady."

In cases of christenings, marriages, and burials, it is not considered genteel in town to attend on foot, but as many as possible are crammed in hired carriages, where they sit as much at ease, and apparently as self-pleased, as it is possible to be. Printed cards of invitation, and embossed note-paper, are habitually sent round among servants and others for suppers, dances, and prayer-meetings. The latter ceremony is a favourite with many of the townspeople, who, dressed out in full costume, assemble to spend the night in monotonous and dreary "hymn singing." On Sundays, a great many of the old people spend positively nearly the whole day in the several churches. After the morning service is over, they continue inside the building, having a little quiet gossip until the next service occurs in the afternoon. On sacrament days it is a common practice for them always to attend, and invariably to take it on each sacrament day.

The more worldly-minded evince the same enthusiasm for "Joe and Johnny dances," and "practising nights," that the others display for the church. They

assemble about dusk, and continue their laborious exercises until past midnight, with a perseverance and industry seldom witnessed in the cane-fields.

Some of their other habits are curious enough. The women are notorious quarrellers and fighters. The disputants begin by the interchange of a few unpleasant remarks, generally of a personal nature; gestures of contempt and defiance follow; the voices are raised to a very high pitch; invectives, declamations, cutting expressions on the character and quality of their relatives following, and a system of admirable attitudénising and vehement acting follows, which beggars description. Unless separated by the crowd which instinctively gathers round them, they proceed from bad to worse, until the war is settled by force of arms. If separated, the excited disputants slowly retire, but keep up a volley of personal abuse for the length of a street, and when forced to go home, continue declaiming and posturing for a long time.

The habit of talking about the most private matters in the highest tone of voice in the streets is equally common: and lovers, friends, and relations think nothing of acquainting the whole street with their intentions and opinions, private and particular, often to the great scandal of ladies and others obliged to listen to the news.

The negro women have a peculiar gift in being able to carry the most fragile articles on their heads without danger; a tray of earthenware, glass, or cakes, nay, a single bottle, are borne by them without the support of hands in a manner that "Signor Blitz" might envy; and to drop a curtsey, or turn the head thus delicately loaded, is a "sleight of head" most commonly and safely practised.

I have already more than once made allusion to the general absence of morality prevalent among the native population; but the fact, although evident enough, has

not been insisted on for want of sufficient statistical information. The subject is an unpleasant one, but requires some notice in this place. A high degree of morality could hardly be expected from a people just emerging from ignorance and barbarism; but it is a subject of common remark, that the young of both sexes are, if anything, retrograding rather than improving in this respect. It is really dreadful to hear the impious and obscene language made use of by mere children as well as adults, both in town and country. The streets of Georgetown are pre-eminent for the display of such disgusting behaviour. It is rare to meet with a virtuous female after the age of fourteen among the lower classes. It is seldom that the mother of a family has all her children born in wedlock, or the offspring of one man.

The remarkably few marriages that occur in the country* are chiefly among persons advanced in life, or who have long been living together. There are in proportion more marriages in town, but the same remark applies to them as to the others. Chastity is not appreciated as a virtue by the lower orders of society. The practice of immorality, and the indulgence of crime, entail no social disadvantage, nor do they incur the displeasure or degradation of any class. The example of virtuous conduct is too rare, and unattended with too little encouragement, to act as an incentive for the rest to follow. There is no loss of position in society, or worldly disrespect, exhibited to those whose characters would, in more civilised communities, be branded by shame and scorn, either from the commission of crime or practice of immorality.

Clergymen may preach, and schoolmasters may instruct, but something more is required to check the

* In a large country parish, to my knowledge, there have been only two marriages among the negroes for the last six months.

growing evil. The example of the white population has, until lately, tended little to encourage reform. There is still much to be done by the more educated among the upper classes, in the way of example and conduct, before this social stain can be effaced from the ranks of society.

In England and Belgium every fifteenth child is illegitimate; in Sweden the fourteenth; in Prussia and France the thirteenth; in Austria the ninth; in Bavaria the fourth; while in Barbadoes the illegitimate children exceed those born in wedlock, and the same fact obtains in this country. I have no statistical data to offer in proof of this statement, but I shall readily be believed by those who live in or who have visited the colony. There is great difficulty in getting accurate information on this subject, as the office of Commissary of Population is abolished, and I have not been able to obtain access to any documents which furnish the necessary facts.

Through the kindness of the esteemed rector of St. Swithin's, the Rev. J. Alison, I have been favoured with the following table of baptisms:

Year.	Legitimate.	Illegitimate.
1842	47	44
1843	46	45
1844	58	51
1845	72	27
1846	54	46
1847	64	58
1848	38	49
1849	69	40
1850	22	29
1851	31	27
1852	30	25
	531	441

According to this table, the legitimate children exceed the illegitimate; but it is notorious that in the same parish a large number of illegitimate children have been baptised by a peripatetic preacher, who charges a dollar for the ceremony.

Let us now review the changes of the planter, such as we have sketched him in our pages.

He settled on this soil as an adventurer, he appreciated its resources, he drew hither the attention of capitalists, and devoted his time, his earnings, and his energy in cultivating the land of his adoption. He had many obstacles to contend against; he combated and surmounted them; he accumulated labour upon his task. From a wild and uncultivated waste he rendered it at one time tractable and beautiful as a garden. He revelled in his pride and in his wealth; but a moral darkness blackened this shining prospect. That darkness has been dispelled by the light of liberty. The slave was torn from his grasp; the strength of the planter was wrested from him, his ambition was blighted by the noble act, his prosperity threatened by the welfare of the labourer; free labour became inadequate to the wants of the estates, society was convulsed; forced and prolonged efforts were made to substitute foreign for native labour; the success has been but partial and problematical. Discontent, despondency, and dismay set in with all their dismal consequences. Rich plantations have reverted to their pristine wildness; miles of country, formerly cultivated with care, are now abandoned and desolate. The growth of indigo, tobacco, coffee, cotton, have been successively given up through ruinous competition with other nations; and lately the only staple, "sugar," was threatened with a similar calamity.

Well might the history of West India property be compared to a species of lottery, in which, while a few gained prizes, many drew blanks! The adventurer or capitalist, formerly a princely proprietor, has now become a struggling farmer. About ten years have elapsed since the complete abolition of slavery, and cause after cause have combined to destroy the planter. But his untiring

energy has redeemed him from many of his difficulties. Poverty, indeed, has visited the abode of many a proprietor, and the tale of former splendour and present woe has resounded from many a gloomy household. The causes are manifest. The value of estates formerly ranged from 100,000*l.* to 20,000*l.*, including the value of the slaves. It has been computed that the worth of the land, its buildings and machinery, about equalled that of the negroes. Hence, when the emancipation occurred, and the planters received an approximative return for the loss of their slaves through the compensation money, the value of an estate could only be considered for the land in cultivation and its fixtures, such as houses, buildings, crops, &c. In the first years after the emancipation, and so long as the system of apprenticeship was pursued, the value of plantations (allowing for the deduction in the withdrawal of slaves) maintained nearly, if not quite, their former prices; but, since the year 1840, it has been asserted that they have fallen in value to at least one-fifth.*

Having exhibited the different changes that have taken place in the life of the planter and of the peasant, it becomes necessary shortly to review the line of policy pursued by the British Government towards these colonies, and incidentally to include some remarks on other parts of the West Indies.

We have seen that after the capture of Demerara, Essequebo, and Berbice, in 1796, a large share of booty (at the presumed instigation of the colonists, many of whom were British) fell to the English, and a promise of prize-money was held out to the troops employed. It would appear that such a distribution never was effected, and although the eyes of the nation must have been opened to the importance and

* See Appendix.

wealth of these rising settlements, the English quietly resigned these possessions into the hands of the Batavian Republic at the peace of Amiens, in 1802, to the great detriment and dismay of the greater number of their inhabitants. In the course of 1803, the chances of war again handed over the colony to the British, and many persons of influence and capital determined to pursue the line of agriculture adopted by the Dutch and older settler. At this period the slave trade, with all its horrors to the poor African, and its profitable returns to the planter, was in full vigour, and was sanctioned by the Government. A few years elapsed, and in 1807 the abolition of the trade was adopted by the British Government, and a terrible check was given by this blow to the prosperity of the planter, many of whom dated their overthrow from this period. For the next ten and twenty years the prosperity of the colony was checked by the abolition and other measures. Few additional slaves could be imported indirectly into British Guiana, whilst at the same time the United States and other slave-allowing nations gained an advantage by our loss. The duty on cotton operating unsuccessfully to the advantage of the West India power, speedy ruin resulted to the plantations thus engaged. From one end of the colony to the other, the estates in cotton were mortgaged to an amount far above their value, and were gradually abandoned; other capitalists subsequently appeared in the field, and cultivated the land in sugar and coffee; but the fate of the latter was similar to the trade in cotton. This useful berry, which may be grown equally well in the West Indies as in the East, was almost altogether excluded from the English market before 1783. The duties and excise on the importation and consumption of plantation coffee in Great Britain were no less than 480 per cent. on its then marketable value; but a reduced

duty, and other causes, gave a singular impulse to the culture of this useful shrub. The profit on coffee varied from 7 to 24 per cent. on the capital invested, and every prospect was held of its long continuance, but the want of slaves, the competition with other countries, the absence of preference given to the produce of the West Indies, gradually led to its decline, to make way for sugar, which, although requiring greater outlay, held out the prospect of handsome profit. And subsequently, by the reduced duty on foreign coffee in 1842, all thought of exporting it from the West Indies has been abandoned. But it is singular to observe that, at the very time when the cultivation of British plantations in the West Indies was thus energetically followed up by capitalists, so that when one article of produce declined in value another was substituted, an objection existed on the part of the British nation to the investment of capital in these countries rather than at home. Planters, even in earlier days, were regarded with an envious eye; and when any murmurs or complaints proceeded from them relative to new and irksome duties on the article of export, they were very generally regarded as the "fastidious peevishness of opulent folly and surfeited prosperity."

So early as the eighteenth century it was urged against the cultivation of sugar by the British settlement in the West Indies, that the several laws enacted by the Government on the sugar question had vested in the planters a complete monopoly of the British market, at the cost and to the manifest injury of the British consumer, who might otherwise purchase sugar, &c., from foreign islands, 20 or 30 per cent. cheaper than in those of Great Britain; and the general conclusion arrived at even then was, that, considering the expense of protecting them in war, the settlement of sugar plantations in the West Indies was improvident and unwise, and that their further extension and improvement would not promote

the general interests of the British empire. It was surely overlooked in such calculations, of what infinite advantage the colonies of Great Britain had proved to her; how important they were to the sustentation of her power, and the spread of her commerce; how materially they contributed to the augmentation of her merchant navy, and the extension of her language, her laws, and her genius to all parts of the world. The value of exports to the West Indies has ranged from two to five millions of pounds sterling, and of all the exports of England about 30 per cent. have been sent to the colonies.

Let us observe the influence of these injurious opinions on the production of sugar, the last remaining staple of any consequence left to the planter besides rum and molasses. The indignation excited in England against the system of slavery, and the generous attempt to ameliorate the condition of the negro, did not deter the planters from the cultivation of sugar. The outcry raised against them, the unpopularity of their pretensions, was very disheartening; but so long as capital continued to be invested, so long as prices proved remunerating, so long would the planter adhere to his speculation and venture in this lottery. He saw the abolition of the slave trade succeeded by numerous measures, all tending to the future abolition of slavery itself in the British possessions, but still trusted to the justice of the British nation for assistance and protection. We have already traced the various effects of the act of the apprenticeship, the granting of the compensation money, and the complete emancipation of the negro, and pointed out the gradual decline in the prosperity of capitalists and planters; whilst, on the contrary, we have exhibited some remarkable proofs of the rapid advance of the liberated labourer.

There wanted but one circumstance to complete the overthrow of the planter and those dependent on him; there wanted but one act to fill up the measure of his ruin, and it was not long in coming. In spite of all his previous disasters; of the chances of war; the insurrection and strike of the labouring classes; the failure of crops; the fluctuation in prices; the threatenings of austere philanthropists and economical legislators, the planter had one saving principle which supported him through all his eventful undertakings. That was the existence of a protecting differential duty which existed in his favour between the sugar admitted into Great Britain from her West India possessions, and that produced by slave labour in foreign countries. About the year 1800, the duty on raw or Muscovado British plantation sugar was 20s. the cwt., whilst that of foreign sugar was nearly double. No refined or loaf sugar was allowed to be imported under a duty of 4*l.* 18s. 8d. the cwt., which amounted to a prohibition, and operated with great disadvantage to the colonists in many ways. From the year 1800, the duty varied up to March, 1845, when it had risen as high as 1*l.* 5s. 2d. per cwt. on colonial Muscovado sugar, and 3*l.* 3s. on foreign sugar the produce of free labour. In the year 1845, a new sugar bill was introduced into Parliament, and the duty on colonial Muscovado was 14s. per cwt., and about 24s. per cwt. on foreign free sugar, with a contemplated loss to the revenue of about 1,300,000*l.* The duty on slave-grown sugar was also fixed at a high rate, and naturally, by such a purposely high imposition, excluded such sugar from introduction into Great Britain, which had waged so long and consistent a war against slavery and the slave trade, although it had actually operated against her own interests. Such a course was noble, generous, and patriotic; but in the year 1846 the shout of Free-

trade was raised, and, echoing along the length and breadth of England, aroused, by its reverberations, the remonstrance and complaints of suffering parties.

In the House of Commons, Lord John Russell (upon whom had devolved the task of carrying through the principles of free-trade consequent upon the retirement of Sir Robert Peel, its first champion) proposed the abolition of the then existing sugar duties, and after a short debate the following measure was adopted:—The duty on British plantation was to be 14s.; on foreign plantation 23s.; and a yearly deduction of 1s. 6d. was to be made in favour of slave-grown sugar, which, in 1851, or about seven years, would be placed upon the same duty as free-grown sugar.

Thus, after all the outcry raised against slavery and its supporters by the British people, the singular anomaly occurred of the very nation most zealous in its efforts to put down slavery, suddenly, by this line of policy, giving an indirect impetus to the abominable traffic it had so long condemned, and contributing to the prosperity of foreign slave-owners, after it had been at so much pains to deprive its own subjects of any participation in such profits. The long-existing and differential protective duty was to be gradually removed, and the powers of the free labourer in the West Indies to be tested with the extorted labour exacted from slaves in neighbouring colonies. How inadequate was to be the strife! how unjust the contention! how ruinous the consequences!

The object of the new duties was to introduce sugar into England in such quantities as would ensure a considerable fall in price, and, in accordance with the principle of free-trade, to place it within the reach of the very humblest classes of society; but at the very time when the measure was consummated, there were not wanting parties of foresight and intelligence to declare

its inconsistency, if not injustice, towards the emancipated negro, and to others of that nation still groaning under bondage, setting aside its ruinous tendency to the British sugar planters.

The author himself of Free-trade Reform has borne his testimony on this subject, for, in a speech made in the House of Commons in July, 1846, he said: "The question of the East Indies differs materially in respect to the supply of sugar from the West India colonies; but those with whom I acted agreed in the opinion which I myself entertained, that this country did stand in a very special and peculiar relation to our West India colonies. You had emancipated from slavery those on whose labour in former years you had mainly relied for the supply of this country with West India produce. You had given to the holders of slaves a liberal, and, estimating it as to pecuniary amount, apparently a munificent compensation for the sacrifice of their interests; but whether or no (however large the sum might be) it was an adequate compensation for the eventual loss sustained, is a question open to some degree of doubt."

Such was the opinion of Sir Robert Peel on the claim of the British West Indies to some more consideration than in the sugar duties of 1846 was contemplated, and no sooner did the welcome tidings reach the slave countries, than public enthusiasm exhibited to the British nation the thankfulness with which the news was received. The following extract is from an eye-witness, and deserves consideration here, although the notoriety already attracted by the writer's correspondence in the *Times* of October, 1847, may render it "stale, flat, and unprofitable" to some readers:

"With the foreign slave-driver, cheap sugar means cheap slaves. I spent the year (1847) in Cuba, with a view of ascertaining the preparations which were being

made in that island to meet the opening of our markets. To an Englishman coming up from Grenada and Jamaica, the contrast between the paralysed and decayed aspect of the trade of those colonies and the spirit and activity which your measures (Lord J. Russell) had infused into that of Havannah, was most disheartening. The town was illuminated when I landed in consequence of the news of high prices from England. Three splendid trains of De Rosnes' machinery, costing 40,000 dollars each, had just arrived from France, and were in process of erection; steam engines and engineers were coming daily over from America; new estates were forming; coffee plantations were being broken up, and their feeble gangs of old people and children, who had hitherto been selected for that light work, were formed into task gangs, and hired out by the month to the 'new ingenios' then in full drive. It was crop time; the mills went round night and day. On every estate (I scarcely hope to be believed when I state the fact) every slave was worked under the whip 18 hours out of 24, and in the boiling-houses from 5 A.M. to 6 P.M., and from 11 A.M. to midnight the sound of the hellish lash was incessant; indeed, it was necessary to keep the overtasked wretches awake. The six hours during which they rested were spent in a barracoon—a strong, foul, close sty, where they wallowed without distinction of age or sex. There was no marrying amongst the slaves on the plantations; breeding was discouraged; it was cheaper and less troublesome to buy than to breed. On many estates females were entirely excluded."

If such were some of the earliest consequences of the new sugar duties in slave countries, no less disheartening were its results on the slave-trade itself, and on the prosperity of the British West India possessions.

From 1816 to 1843 inclusive, the number of negroes landed in the islands and on the continent of America

was 865,000, from official reports, in spite of the vigilance of British cruizers, which, besides destroying the health and lives of the seamen engaged in the hated pursuit, has cost at the very least about 20 millions in the fruitless endeavour to suppress the slave-trade. It has been computed that from 80,000 to 100,000 slaves are annually imported into the Spanish and other slave colonies, and that about 15,000 are imported into Cuba alone, at an entrance fee of 17 dollars, 10 of which go to the governor, although the Spanish Government profess to discountenance the abominable traffic; rendering the treaties of 1816-17 and 20 null and void.

A very late report from the commissioners at Sierra Leone states, "We believe that the slave-trade is increasing, and that it is conducted perhaps more systematically than it ever has been hitherto." Again, "Experience has proved two things. 1st. That the losses of the slave traffickers are not very heavy, especially as, through their agents at Sierra Leone and elsewhere, they have the power of re-purchasing the detained vessels and their stores at extremely low rates, and of sending them forth again on their detestable voyages; 2nd. That this country is put to heavy charges in the shape of prize money on vessels which are frequently captured under circumstances which scarcely admit of doubt of their having been used as decoys!" The profits of the slave traffic must be immense when it is stated the capture of four vessels would not subject the owners to loss, provided the fifth was successful in landing her slaves in Brazil. One individual alone declared his profits to be several thousands of pounds per year.

If such were the profits and energy of the slave-trade up to the time of the sugar bill of 1846, how much greater would they not be likely to become under the encouragement and impetus given to such a traffic by

the admission of slave sugar into Great Britain at a reduced duty! What other than misfortune and defeat could attend the British planter in this new experiment, when it was known that the cost of production of slave sugar is about 13*l.* per ton, whilst that produced in British colonies demands at least an outlay of 25*l.* per ton, or double the amount of the other! The general exports of sugar from the British West Indies have been gradually diminishing since the emancipation to nearly one-half of the original amount, although less perhaps in British Guiana than elsewhere, whilst the slave countries have increased and are increasing in number, population, and importance.

As regards this country, the quantity of sugar produced in 1846 was about 21,000 hogsheads—a very small quantity, owing to a bad season from a long and protracted drought that year. The prices at this period in England were remunerating and comparatively high—about 20*l.* per hogshead. In 1847 considerable exertions were made to render the crop larger; a favourable season, and a high price of labour, gave a return of about 36,000 hogsheads, but it was the first year of free-trade, and the markets of Great Britain were gorged with the hitherto valuable produce of the colonies. In the first six months of 1846 no foreign slave-grown sugar had been received in England. For the same period in 1847, 497,915 cwts. were admitted, and prices were of course considerably affected by such competition. From 18*l.* they rapidly fell to less than 10*l.* per ton, and the beautiful crystal of the lovely Caribbean islands sank in value to the guano manure, which, imported from desolate and barren rocks, was strewed upon the cold soil of Great Britain, at an expense in many instances fully equal to 10*l.* per ton.

It was not strange then that the cry of ruin should be

heard solemnly echoing across the broad Atlantic until it reached the walls of the Imperial Parliament; it was not wonderful then that remonstrance and complaint should reverberate from isle to isle in the West Indies until they combined in one energetic appeal to the humanity and justice of the British nation. The sacrificed planters pointed with terrible earnestness to the fact of the value of sugar, their only staple of export, falling below the cost of production. The truth of their statement was borne out by the numerous failures in the East and West India houses connected with the sugar trade. In the Mauritius every mercantile establishment but one succumbed to the shock. In the East, a stop was put to the manufacture of sugar. In Great Britain, twelve large and long-established houses connected with the West Indies stopped payment, and involved in their fall the colonial planters, merchants, and others dependent on them. It is true that other causes may have contributed to their overthrow; it cannot be denied that other than West India houses tottered beneath the calamities social and political of the year 1847, but the fact obtains that, whilst the other firms are slowly recovering and emerging from their temporary difficulties, most of those engaged in the British West India sugar trade were paralysed by the blow they received.

The effect on this colony more particularly calls for our notice. The panic of 1847 will be long remembered and long felt. All parties were subjected to its operations, all interests to its blighting influence. It had long been a reproach charged against the West Indians, that they were indolent and apathetic in helping themselves. More than one member of the House of Commons has openly pronounced this taunt.

"Qui tacet, consentit," is an old saying, and the silence and stillness of the planter was attributed to erroneous

motives. It would be out of place to enter upon the consideration of this subject at any length. It is quite sufficient to observe, that Great Britain has singularly attested the inefficacy of "colonial remonstrances in general," and that such an accusation to colonists comes very unbecomingly from a Parliament which, turning a deaf ear to the petitions of her principal colonial possessions, induced rebellion, disaffection, and distrust in America, the Canadas, New Zealand, and both the East and West Indies. It being clearly apparent to the inhabitants of this country that an alteration in the present system of working estates was to be effected, or else their abandonment would ensue, the most striking evil was first assailed, that of the high rate of wages. An English proprietor and a M.P. submitted, through the local newspapers, that as labour and salaries expended on an estate amounted to 9-12ths of the whole expenditure, there should be a reduction effected in this department of 25 per cent. The experiment was tried, and let us see how it has answered. The salaries of managers, overseers, medical men, and others, were reduced one-quarter of their previous amount, and in several instances even more. The necessity and the helplessness of their position induced these parties quietly to submit to the reduction, however disagreeable and injurious. But when it was proposed to the labourers, that in consequence of the altered circumstances of the colony a reduction of 25 per cent. was to be made in the wages to be paid them, they one and all refused to agree to it, in spite of the counsel and advice of magistrates, ministers, and others. From the month of December a strike commenced, and continued for several months. The opposition manifested by the creole labourers was communicated to the immigrants both Portuguese and coolies, and persuasion added to example kept them for

some time in idleness and discontent. But the same necessity which had compelled the white man to submit to these changes, forced also the Portuguese to continue his toil at any price sooner than subject himself to want and poverty. The immigrants in general returned to their work, but the independent creole, removed beyond want and necessity, could afford to stay at home with his hands crossed.

The want of labour became urgent, the immigrants were few and fickle, the creole irresolute and idle, the planter hesitating and anxious. Meanwhile, the canes were rotting, the grass growing, the land was hardening and choked with weeds, the steam-engines rusting, and the tall chimneys of the boiling-houses emitted no curling vapour indicative of life. The Christmas holidays and new year 1848 were ushered in with sinister misgivings. No public meetings were held to decide upon the necessary steps; no unanimous sentiment pervaded any class; no active principle awoke in the community, but rather a dogged and passive submission. Some of the planters proposed giving the old rate of wages; the labourer became excited, and appeared on the stage again; others offered the same wages, but demanded more work for the money and a few hours longer labour in the field; the labourer became impatient, and objected; others remained inactive, and waited to see what the rest would do; and the labourer laid himself down till they should decide. One bold, united effort would have accomplished the object in view; one strong spirit have guided the rest; but the planters seemed suspicious of each other, and the labourers of them. An unexpected, although not unnatural circumstance, however, brought all parties to their senses. In consequence of the uncertainty of speculation in sugar, the two local banks refused

any longer to advance money on produce (which formerly enabled the majority of planters to carry on the cultivation of their properties) unless the bill of lading of such sugar was attached, hence depriving the planter of the privilege of sending his produce in a way best suited to his advantage. Again, the very minimum price was advanced for sugar even of the best quality, and the cautious policy of the banks interfered with the arrangements of the planters, and considerable confusion ensued. Suspicion fell upon the stability of the two banking establishments, especially after the stoppage of the West India Bank; a temporary run upon them followed, but was met with prudence and confidence. The little sugar manufactured was found insufficient at present prices to pay expenses. The wages of immigrants and the few creoles who had worked under the new system were in arrears, salaries of estates' officers remained unpaid, and the melancholy fact could no longer be doubted by the resisting creole that something serious must have occasioned the inexplicable conduct of the suffering planter. Many had at first supposed that it was merely an attempt to reduce wages for the greater profit of the planter; but they were soon undeceived, and their natural shrewdness soon taught them that one common misfortune had overtaken all. Whether by coincidence or accident, numerous fires occurred during the "strike," and were of so suspicious and dangerous a character as to induce his excellency the governor to issue a proclamation offering a reward for the discovery of the offenders, and giving an admirable admonition to the labouring classes as to their conduct during this crisis. These strange fires (which we could never bring ourselves to believe were acts of incendiarism) ceased as if by magic, the creole labourers slowly returned to their toil, each party

making the best bargain he could, but generally with a reduction in amount of wages, or an increase in the quantity of the work.

The immigrants were unceasing and earnest in their appeal for work. Economy to the greatest possible extent began to be practised in private circles, and the value of money was more than ever appreciated by the suffering colonists. The tale of the planter was the tale of all. The reaction had extended from them to every class. The shock, like that of the electric fluid, acting upon bodies of a similar nature, was communicated simultaneously through all ranks. The money of the planter, formerly plentiful, had passed from his hand into that of the labourer; was transferred by him to the merchant, tradesman, and storekeeper; was circulated by these among professionals and other classes, and from these it passed through all grades of society, until accumulating either as capital in England, or as deposits in banks, or as bullion in the colony chests—after having liberally supplied the officials and other public expenditure—it again began its busy round in the hand of the planter. But now the source whence it sprung was drying up; the fountain whence it flowed narrowed and spent; and the current of its course was likewise straitened and confined.

The labourers' gains fell off; the merchants' sales decreased; the earnings of the professionals were crippled; the wages of tradesmen, servants, and others were rendered uncertain and scanty. One class alone remained unscathed by the withering stroke—the officials. It could not be a matter of surprise, therefore, to any one, if an attempt was made by the colonial members of the Court of Policy to effect a reduction of 25 per cent. in the salaries of all officials whose income amounted to more than 150*l.*; but the proposal to that effect, submitted

through his excellency to the Secretary of the Colonies, Earl Grey, was met with the reply, "That his lordship could not give his sanction to any reduction of the civil list as proposed by the members of the Court of Policy, inasmuch as such payment was guaranteed by the colony up to the year 1852, upon the granting of the immigration loan, &c." This refusal on the part of the British Government was received with indignation by the colonial members of the court, who insisted, that as the Home Government had broken faith as regarded immigration, they could not be expected to fulfil their part of the agreement: and those events transpired which have been alluded to in another place. But in the mean time, the common distress of the whole colony had produced something like a desire on all sides to meet the present evils with submission; a concession of self-interest ensued. The labourers, both creole and foreign, sought employment even at the reduced rates; the tradesmen and petty salesmen resumed their avocations even with uncertain profits. The planter confined his operations to such work as was pressing and imperative, leaving the future to decide whether the cultivation or abandonment of his property should follow; the merchants, the professionals, and the officials, all steadily pursued their occupations, trusting that circumstances would operate in their favour, and avert that ruin which the crisis in the sugar market would entail upon themselves and families.

In 1849, several influential gentlemen were appointed by his Excellency Governor Barkly to form a commission to inquire into and report upon the condition and prospects of British Guiana. After considerable trouble in collecting the necessary information, they embodied it in a report, which, as it gives a full, lucid, and complete account of the agricultural condition of the colony at that period, I have, by permission, taken the liberty

to insert.* A reference to its important and valuable details will convince an impartial reader that there was much cause for alarm and anxiety on the part of the planters. If the view taken of the affairs of the colony was too gloomy, and the threatened anticipations too serious, it cannot be denied that the crisis through which the colony was passing was alarming and painful. If, fortunately, the condition of this colony has somewhat improved since the date of that report, and its prospects appear more cheering than those of Jamaica and other West India islands, it must be admitted that much of the success is to be attributed to the magnificence of these valuable possessions, and to the untiring energy and perseverance of its spirited colonists and their supporters.

But, in making this assertion, I may be permitted to remark, that it appears idle to trust to others for support, and to be buoyed up with the hope of future protection in the way of duties. However unjust appears the principle, that a nation which has spent millions in attempting to extirpate slavery, should be found willing to encourage it in another shape, it must be obvious that the assistance which the protective duties afforded was unstable and feeble, and unworthy of a people who wish to acquire permanent prosperity not dependent on the adventitious and precarious assistance of legislative enactments and fiscal regulations. In less than half a century has Great Britain destroyed the cultivation of indigo, cotton, coffee, in her most fruitful provinces, the West Indies, by the enactment of laws fatal to their existence; and ere that half century will have expired, threatens to render profitless the only remaining article of native produce exported, and upon the cultivation of which depends not only the welfare, but the very ex-

* See Appendix.

istence of 800,000 of her people. If sugar ceases to be the culture of the peculiarly rich soil of the West, what other exportable article of any value can supply its place?*

What powerful Providence will interfere to arrest the man of education and civilisation in his flight from the land of desolation? what merciful interposition prevent the half-civilised negro from relapsing into a state of degraded barbarism? It is not enough to rest contented with the present, when the future bears such a threatening aspect. As yet, this colony, in particular, has borne up bravely against the assault of adverse circumstances—as yet, the finances are good, the institutions of the land upheld, the cultivation of the soil continued, and the hearts of the colonists strong in their determination to surmount the difficulties which beset them; but none can foretel the result; the whole fabric of society, raised from such crude materials into something like a definite outline, is not yet filled in, and the slightest shock may crumble it to dust.

The prosperity of the country mainly depends upon the success of immigration. The ranks of the labourer are continually thinning, and require constant and unceasing supplying; more recruits must be procured, to organise anything like an efficient body of labourers. The efforts of the colonists to obtain an advantageous immigration ordinance have hitherto proved abortive. The wants of the community in this respect have not been understood or appreciated by the colonial ministers, who have repeatedly disallowed the ordinances prepared with much care and foresight by the local legislature; and unless some more practical and beneficial measures are adopted to encourage the introduction of immigrants to these

* Many other valuable articles of produce could be raised, but would hardly prove remunerative in the precarious condition of the labour market.

shores than those which have hitherto been in force, it is to be feared that the resources of the colony will be unavailing, and a dwindling commerce and declining agriculture again threaten the colony with destruction.

A few concluding remarks only remain to be added, and these questions naturally present themselves. What is to be the fate of this old and important settlement? Has slavery, then, triumphed over freedom? Has the ignominy of bondage and the extortion of the lash prevailed over liberty, and the energy and industry of freemen? Has the philanthropy of the British nation been suddenly chilled into selfishness, and the warm impulses of its generous feelings been frozen in their course? Can it be possible that the same hearts which before beat with indignation at the calamities of human suffering, now calculate calmly upon the advantages to them of the sufferings of others? Will the English people merge their sense of justice in a sudden appetite for cheap sugar? Shall the page of history have to record that the subjects on whom the great experiment of emancipation were tried also became its victims? and that the lands which were to have exhibited to the world a convincing proof of the wisdom, policy, and philanthropy of the "abolition of slavery," have reverted to their pristine state of uncultivated waste and unprofitable verdure? Who can contemplate the consequence to the inhabitants of such a territory without alarm and without anxiety? The majesty of civil and political law rendered obsolete for want of material whereon to exercise its influence; the edifices of public worship, and for the transaction of public business, untenanted, and falling to decay; the broad river deserted by its ships and sailors; the abandoned cane-piece and the crumbling manufactory become the abode of the wild beast and gloomy owl; the embryo freeman and industrious citizen de-

Maquitzan, or Frog Indians.

London. Longman & Co.

generating into the unprofitable squatter, whose highest aim appears to be to raise sufficient food for himself, whose chief recreation would consist in listless apathy and indolent rumination; his liberty become a byword among nations; his career a warning to other countries, as an example to be carefully avoided; the deep gloom of superstition substituted for the bright light of pure religion; the dark night of ignorance and error for the brilliant day of civilisation and knowledge. Idleness, the parent of so much evil, would rejoice in the working of her power, and hail an empire of degraded and unprofitable subjects. Like to the vampire of the land, she would gently flap her wings upon the drowsy and senseless body, whilst at the same time she cunningly deprived it of the vigour of its growth, the very life-blood of its existence. Surely it will require more than the sweetness of slave-grown sugars to render palatable such consideration; surely (as the Bishop of Oxford has remarked) the cup thus sweetened will be dashed from the lips at the contemplation of such misfortunes. For my own part, I cannot regard the picture I have drawn without an inward hope that it will never continue to be so presented to the world. A feeling of sanguine confidence leads me to hope that the full tide of civilisation which has long been flowing to our shores will not recede and ebb back to another quarter. I neither believe that the colony is ruined nor likely to be ruined; with the evidence of wealth and industry before me, I believe in its onward progress and prosperity, but at the same time do not anticipate that, as a general rule, such large fortunes will continue to be made as were formerly realised, but honestly think that capital invested here will give as good if not a better return than in most other parts of the world.

CHAPTER II.

STATISTICS OF BRITISH GUIANA—ITS DIVISIONS—FORM OF GOVERNMENT—JUDICIAL DEPARTMENTS—STIPENDIARY MAGISTRACY—PUBLIC OFFICES — POLICE ESTABLISHMENT—TOWN COUNCIL—MARKETS — COURTS — BOARD OF CHURCH AND POOR FUND—CUSTOM-HOUSE—PUBLIC INSTITUTIONS AND SOCIETIES—BANKS—PUBLIC BUILDINGS — LIGHTHOUSE — MILITARY BARRACKS — NEWSPAPERS — SCHOOLS—DEMERARA RAILWAY—BURIAL-GROUNDS—GAOLS — PENAL SETTLEMENTS—PUBLIC CONVEYANCES.

THE history of the colony of British Guiana has been sketched, however imperfectly, in the foregoing pages. It only now remains to give a short account of its present state and condition, its civil and political institutions, its social and charitable establishments, its revenue, trade, and population, together with a few remarks suggested by these topics.

British Guiana is divided into three counties, Demerara, Essequebo, and Berbice, which, it will be remembered, were originally separate colonies.

The county of Demerara extends from the Abary Creek to Boerasire Creek, about 90 miles in extent along the sea-coast. The flat shores, covered with a dense bush of trees and shrubs, presenting the appearance of a gigantic hedge, are washed by the waters of the Atlantic. It has a population, exclusive of the city

of Georgetown, and not including the Bucks, or native Indians, soldiers or sailors, of about 75,767 persons, and contains 5672 houses. It has been laid out in 157 plantations, of which 64 are on the east coast, 64 on the east and west banks of the river, and 29 on the west coast. Of these plantations only half are in cultivation, the remainder being either abandoned or converted into cattle farms or villages. They all run parallel to each other, and extend, like immense slips of garden land, back to the uncleared and uncultivated forests.

Georgetown, the capital of the county (and of the colony), has a population of 25,508 persons, and, including the suburbs, contains about 4895 houses, of which 4065 are in the city alone. The total value of the house property, according to the last appraisement, was 2,701,203 dollars.

The county of Essequebo extends from the Boerasirc Creek to the extreme limits of the colony westward. It was formerly laid out in about 100 estates, of which 50 were situated on the Arabian coast, 22 on the island of Leguan, 20 on the island of Waakenaam, 4 on Hog Island, 3 on Tiger Island, and 1 on Troolie Island; while several plantations in the hands of the Dutch were cultivated along the banks of the river. Population, 34,925 persons, residing on the estates and in the scattered villages. Houses in the villages and hamlets, 2254. There is no large town in this county.

The shores of the Essequebo coast are flat and densely wooded, like those of Demerara; but fine sea-beaches, instead of mud-flats, extend seaward to the Atlantic Ocean.

The estimated value of Demerara and Essequebo before slave emancipation was 18,410,480*l.*

The county of Berbice occupies an extent of 60 miles, from the Abary Creek to the river Cormtyn. Its pre-

sent boundary was arranged as far back as 1673. There were formerly about 74 plantations on the coasts and round the mouth of the river, but at a still earlier period a great many valuable estates were in existence along the banks and creeks of the river Berbice. The estimated value of Berbice before the slave emancipation was 7,415,160*l.* The present population is 27,003 persons. Wooded mud-flats and plantations beyond stud the line of coast. New Amsterdam, the capital, founded in 1796, is planned and built much in the same manner as Georgetown. Its appearance, however, is more picturesque and imposing when approached from the sea, stretching as it does for about a mile and a half along the river, and intersected by several canals, which run parallel with the stream. The houses are not placed close together, but on separate allotments of a quarter of an acre of land, surrounded by open trenches, through which the town is drained, the water flowing into them at high tide, and at its reflux carrying away any impurities collected. Fruit-trees, palms, and flowering shrubs surround most of the better class of houses, and give them an appearance of indescribable beauty. The stores or mercantile houses front the river, and have commodious wharves and warehouses. The town was formerly protected by three strong batteries, placed at the entrance of the river, two on the east side, and the other, York Redoubt, on the west side, opposite Crab Island.

Fort St. Andrew's, nearly four miles from the mouth of the river, and two from New Amsterdam, consisted of a low fortification or sea battery, with four bastions, surrounded by a ditch or fosse, and mounted with eighteen 12-pounders. An extensive savannah or swamp extends in the rear of the fort, which is separated from New Amsterdam by the river Canje. The barracks for the military and quarters for the engineers and ordnance de-

partment are well situated, and are sufficiently protected.

There are several churches for the Episcopalian, Presbyterian, Roman Catholic, Wesleyan, and other congregations; in connexion with these are several useful schools. A "colony house" serves for the use of the few public officers located in the town. A ferry-boat plies between the town and the opposite bank of the river, but it has been lately proposed to establish steam communication.

The city of Georgetown, the capital of British Guiana, is situated on the eastern or right bank of the river Demerara, in latitude 6 deg. 49 min. 20 sec. north, and longitude 58 deg. 11 min. 30 sec. west, about the centre of the sea façade of the colony, having the river Berbice, with its settlements, distant about 57 miles on the eastward or windward side, and the river Essequebo distant about 20 miles to the westward and leeward. The origin of this city, and its former name of Stabrock,* have already been alluded to, as well as the manner in which the streets were laid out. There has been no material change or alteration in the admirable plan on which the town was built, by the skill and perseverance of the Dutch, who in this respect, as well as in most others, have shown themselves to have been endowed with all the sagacity, wisdom, and industry so necessary in the establishment of colonies.

Occupying a flat surface on the brink or margin of the river, the town is not seen to advantage when approached by land or sea. Viewed from the river, or opposite bank, it presents a long range of wooden buildings of various size, chiefly the back stores and warehouses of

* Stabrock formerly consisted of a large street, with houses and lots on each side running from the river eastward to the bush; this street still exists, and is now known as the Brickdam.

the merchants, with projecting wharves or stellings along the line, where passengers and goods are landed, and entrance effected to the various parts of the city; scarcely raised above these plain-looking buildings, the dwelling-houses, stores, and other edifices are imperfectly seen, surrounded and interspersed by waving lofty, palm-trees, and the varied and luxuriant foliage of the tropics, while the public buildings, with their shining domes, the lighthouse, the cathedral towers, and the spires and steeples of numerous churches, white and glistening in the sunshine, are elevated considerably above the houses, piercing the summits of the trees with which the city is ornamented.

On entering the city by one of the public or private stellings, Water-street is first seen; it is built close and parallel to the river, and, although the most densely peopled, is the narrowest in the city. It extends from Fort William Frederick nearly to Plantation La Penitence, and is upwards of a mile in length, having in its greater part rows of wooden and brick houses on each side. This is the chief seat of business in Georgetown, and indeed in the whole colony. Six large sluices, discharging the drainage and sewerage of the city, cross Water-street in different places, and empty themselves at low water into the river, which at high tides rises above the town in many places, and its encroachment is alone prevented by embankments or dams. Two other principal streets, Main and Camp-street, run parallel to Water-street, numerous smaller streets intersect these at right angles, the city being laid out in rectangular squares, which are again subdivided into equal and regular lots, on which the houses are situated.

The dwelling-houses of the inhabitants are for the most part constructed of wood; they are in general only two stories high and are covered with slated or shingled

roofs, and raised some feet from the ground on brick pillars. Before them are galleries or piazzas, while the windows are shaded by Venetian blinds, or have green shutters placed outside; each house has separate out-buildings for servants, kitchens, stables, &c., and are in general surrounded with flowering trees and shrubs, besides having garden-grounds within the premises, which are enclosed by iron rails or wooden palings. The houses are generally painted white, which makes a cheerful and agreeable contrast to the green verandahs or blinds and the ever green foliage. Georgetown is divided into eleven wards (see p. 52). It contains altogether, including the suburbs, about 4895 houses; the appraised value of those in the city alone, in number about 4065, amounts to 2,701,203 dollars. The population of Georgetown, according to the census of the 31st of March, 1851, was about 25,508 persons, exclusive of soldiers and sailors; of this number about 3730 were white, and the remainder belonging to the mixed or black races.

The streets are constructed of comminuted granite stone, covered over with caddy or shelly sand; they are in general of great width, so that several carriages can drive abreast. On each side beds of grass, too frequently allowed to grow to an inconvenient height, slope towards the draining trenches, which are intended to convey into the main drains or principal sluices the sewerage of the town. Exclusive of the private drainage inside each whole or sub-divided lot, there are about 90 miles of open trenches and small drains, through which the filth and refuse of the city has to dribble before it can reach the river. This is sometimes effected so slowly, and the drains are so choked up with mud, offal, and rubbish, that the water occasionally stagnates, to the injury and annoyance of the inhabitants. The town is supplied

with rain-water collected from the roofs of the houses, and conveyed by gutters into zinc or iron cisterns or large wooden vats, where any impurity or adventitious substance falls to the bottom as a sediment. In the dry seasons there is often a scarcity of water among the poor, who are obliged to collect it from the fresh water canals, prominent among which is the Lamaha Canal. This useful public work was proposed in 1826, and consisted in cutting a canal from the Lamaha Creek to Georgetown, a distance of several miles. This canal was intended to convey fresh water for the use and benefit of the inhabitants of the town, as well as for the several plantations along which it was conducted; namely, Haagsboch, Petershall, Vebserhoofd, Rome and Houston, Riumveldt, La Penitence, Le Repentir, Vlissingen, Thomas, Lilieldaal, Turkeyen, and Cuming's Lodge. A draft of rules and regulations, at the suggestion of the governor and Court of Policy, was drawn up for its management and superintendence, and subsequent ordinances on the same subject appeared in 1828, 1829, 1835, and later periods. This fresh water has been of considerable service, but so negligently protected against straying cattle, and people who, in violation of the law, resorted to it for the purposes of bathing, that other measures became necessary to procure a pure supply. Fresh springs were well known to exist in the interior, and abundance of good water in many creeks and lakes, but they were too remote for the great majority of the colonists to benefit by them. The want was not felt by the inhabitants only, but by all kinds of cattle in town and country. A gentleman on the east coast, who had several cattle farms under his management, lost about five hundred head of cattle in the year 1831, simply from the impossibility of obtaining water in a long dry season. To such an extent has the deficiency been ex-

perienced, that upon several occasions in the city it became a lucrative business for persons to procure water from the creeks, and retail it at enormous prices, ranging from half a dollar to a dollar per gallon, while ships returning to Europe were charged at similar rates, unless they could spare the labour to procure a supply for themselves. The local government fixed a water tariff, at the rate of three dollars per puncheon, the price paid by the commissariat officers for the quantity consumed by the troops.

The practicability of boring for water was frequently suggested; but, after numerous failures, the experiment began to be considered chimerical until the year 1830, when Major Staple sounded water at a depth of 140 feet. The first shaft was sunk in Cummingsburgh in the city. Thus, after indefatigable exertions, and in spite of a general incredulity as to his success, that gentleman succeeded, in September, 1831, in completing the first artesian well. The water thus procured proved of a ferruginous nature. It is tolerably clear on being first raised, and of good colour, with a brackish taste and faint odour. If allowed to stand for some time, the smell becomes offensive, the colour changes to a yellow brown, and a pellicle forms on the surface of the water, which, accumulating, becomes too heavy to be thus supported, and eventually falls as a sediment to the bottom. This is easily explained. The iron is held in solution by carbonic acid gas in the water as it is first raised, but, on exposure to the atmosphere, the gas escapes, and the liberated iron in a new form is deposited in strata on the surface of the liquid, until subsiding to the bottom by its own weight. If spring water is allowed in any quantity to stand, nearly the whole of the iron collects at the bottom, and the supernatant liquid remains clear, but is improved by filtering it. In this state it is palatable and

good. The water proves very acceptable to cattle, horses, and other animals, if drank as it issues from the springs. When freed of its iron, it is extensively used in washing and cooking, but is decidedly not suited for the more refined products of the kitchen. An analysis of the water has been made by several chemists. It is found to contain a large proportion of iron, suspended by carbonic acid gas, with a very minute quantity of magnesia, and a large proportion of salt. The temperature of the water as it issues from the spring is about 84 degrees of Fahrenheit, being five degrees higher than the temperature of common water at daybreak. The water rises eighteen inches higher at high water than at low; at spring tide there is a difference of two or three feet. The strata through which the spring is reached may be thus described :—" The different strata of earth which are passed through in arriving at the water vary in different parts of the colony. In general, a semi-fluid mixture of caddy and soft clay is found to the depth of about forty feet, and then a stratum of decayed wood or lignite, varying in depth from six to twelve feet. From thence, to 112 feet, stiff clay of different colours, and clay mixed with sand in various layers, and more or less coloured with iron, with pure pipeclay intermixed. Most commonly, before arriving at the water, there are several feet of decomposed granite, consisting of quartz, felspar, and mica in small grains, gradually increasing in size to the depth at which the water is found."*

The following table, furnished by a gentleman frequently engaged in boring artesian wells, gives a general idea of the different strata of earth met with:

* Local Guide.

RECORD OF THE STRATA OF EARTH MET WITH IN BORING AN ARTESIAN WELL ON PLANTATION BATAVIER, MAHAICA, EAST SEA-COAST OF DEMERARA.

12	12	feet surface soil.
1	13	Caddy and soft mud.
22	35	Decayed wood and caddy.
1	36	Lavender-coloured clay (stiff).
3	39	Blue and yellow clay.
6	45	Yellow clay.
1	46	Blue, yellow, and red stiff clay in streaks.
5	51	Blue and yellow, with stuff like ochre.
1½	52½	Blue clay, striped with a purple cast.
½	53	Stiff grey clay.
2	55	to 79, Grey and yellow, with sand.
25	80	Grey, with a little yellow ochre.
10	90	Yellow soft clay and sand.
2	92	Stiff bluish clay, some rotten wood and sand.
10	102	A little white sand and blue clay.
6	108	Light grey clay with sand.
5	113	Found a few pieces of hard substance like stone.
8	121	A large bed of white sand containing water.

Good roads extend from Georgetown along the east sea-coast towards Mahaica and Berbice, and for a considerable distance up the east bank of the river Demerara. These roads, as well as others throughout the colony, are superintended by county overseers, and are required to be kept up at the expense of the plantations through which they pass. There are, unfortunately, no public walks of any interest or beauty in the city. An esplanade fronting the ocean is open to the public at the fort, and a large open space in the heart of the city, known as the Parade-ground, with a few shrubs and grassy paths, are occasionally visited by the lovers of the promenade, who are principally attracted by the enlivening strains of the military band.

British Guiana is divided into five electoral divisions, viz.:—Demerara, city of Georgetown, Essequebo, Berbice, and New Amsterdam. These divisions return the seven members of the College of Electors, or "keizers," as follows:—Two for Georgetown, one for Demerara, two for Essequebo, and two for Berbice. The financial re-

presentatives, six in number, two for each county, are also returned by these divisions.

The qualifications of a member of the College of Electors, or a financial representative, are either the possession of 80 acres of land, 40 of which are in cultivation; or an annual salary of the value of 1440 dollars; or the possession of house and land of the annual value of 1200 dollars. The qualification of voters in the country consists of—

1. Possession of three acres of land; or,
2. House and land of the annual value of 96 dollars; or,
3. The tenancy of six acres of land; or,
4. The tenancy of house and land of the annual value of 192 dollars.

The qualification of voters in town consists of—

1. Possession of house of the value of 500 dollars; or,
2. Tenancy of house worth 120 dollars per annum.

The qualifications of voters either in town or country, are—

1. An annual income of 600 dollars or upwards.
2. Annual payment of taxes to the amount of 20 dollars.

The form of government remains the same as during the days of slavery, and consists of a Court of Policy, composed, as formerly, of ten members; five official and five elective. The official members are the governor, the chief justice, the attorney-general, the administrator-general, and the Government secretary. The elective members serve for three years, and go out by rotation, the senior member retiring first. They are elected in the following manner:—When a vacancy occurs, the College of Electors nominates two candidates, one of whom is selected by the governor and members of the Court of Policy, notification of which is given in the official *Gazette*. A member thus elected is required to

take the oath of allegiance, and a penalty of 1000 dollars attaches to a party declining to sit. Four members are necessary to constitute a court. The qualification for a member is the ownership of a plantation, and a residence of three years in the colony. Each member has a vote, but the governor has the casting voice; and besides this, has an absolute veto on all bills brought forward for discussion. Without his approval, no ordinance can have the effect of law; and if it obtains his assent, it is subjected for further examination and approval to the Queen in Council. Orders in Council are occasionally issued by the Sovereign, and constitute laws independent of the Court of Policy.

The term of service of the financial representatives is two years. They are assembled once a year by proclamation to meet the Court of Policy, forming what is called the "Combined Court," the duties of which are to consider the estimate of annual expenditure prepared previously by the Court of Policy; the several items having been discussed and passed, a committee is appointed to prepare the ways and means, or mode of taxation, which being submitted to and approved of by the Combined Court, the requisite ordinances are passed to render them law. The privileges and powers of the financial representatives, restricted and limited as they are, have been the subject of numerous controversies and difficulties, some account of which has been already given, and, as the arguments on both sides of the question are much the same at the present day as they were formerly, it would be useless to consider them here.

The College of Electors consists of seven members, who are elected by the inhabitants for life. They have no other function than to choose or nominate two properly qualified persons, whose names they submit to the Court of Policy in the manner already stated.

The present form of government has been considered by many of the colonists as unsuited to the altered circumstances of the colony. Frequent attempts have been made by a "reform party" to abolish the present system, and to introduce a House of Assembly and a Council, similar to those that exist in Jamaica, and some of the other islands of the West Indies. Hitherto such attempts have proved abortive, and have failed from want of energy and unanimity on the part of the reformers, and it is very questionable whether such a form of government would be better adapted to the requirements of the community than that which obtains at present. Certain alterations and modifications are perhaps desirable, and no doubt will be introduced in the proposed "new constitution" now under consideration.

Before the year 1812 there were separate courts of justice for each of the three colonies; but in that year the courts of Essequebo and Demerara were united by proclamation of Governor Carmichael, and consisted of eight colonial members, and a president appointed by the Crown. In the following year his Honour Judge Henry, the first English president, took his seat on the bench. He was succeeded, in 1816, by his Honour W. H. Rough, and the good effects of the two English professional judges soon became apparent in the mode of conducting legal proceedings, hitherto but imperfectly carried on in the colony; but there was much room for improvement. Disputes arose on the subject of official fees; and in 1821 a public meeting was held on the subject of abuses in the judicial department, and a petition, numerously signed by the inhabitants, was sent to the king, complaining of the deplorable system of the administration of justice, and praying for relief. In the course of the same year Judge Rough was suspended by the governor, and shortly afterwards his Honour Charles

Wray arrived, and under his able administration the system was ameliorated. In 1831 the ancient courts of justice were abolished, and a new court, composed of a chief justice and two puisne judges, appointed by Order in Council for British Guiana (the court of justice of Berbice being abolished) to try all civil cases; whilst a criminal court, consisting of the same judges, but assisted by three assessors chosen from persons of respectability, was appointed to hold criminal sessions once every quarter in Georgetown, and occasionally in Berbice. In 1831 President Wray became the first chief justice. He was succeeded, in 1836, by his Honour J. H. Bent, who, after earning a high and honourable character as a lawyer and a judge, closed a useful and venerable life in 1852, regretted and esteemed by all ranks. He was succeeded by the present chief justice, his Honour William Arrindell, who had latterly received the appointment of attorney-general. This gentleman, in the course of his career, has been engaged in the several legal improvements which have characterised the administration of the British governors from the year 1820, and has acquired for himself an honourable reputation as an indefatigable and able lawyer and legislator. Independently of his other claims to respect, he has acquired great honour by the zeal he has displayed in founding and promoting the "Orphan Asylum" of Georgetown, the nature and object of which are sufficiently expressed by its title, and the want of which was long and grievously felt by the poor and destitute children of all classes in the colony.

There are two assistant, or "puisne judges," who preside in rotation at the civil and criminal courts—his Honour R. C. Beete, and his Honour W. Alexander.

The other law-officers of the Crown are the attorney-

general, the Hon. R. R. Craig; the solicitor-general, J. L. Smith, Esq.; and the Crown solicitor, R. W. Imlach, Esq. The clerk of the supreme criminal court is W. H. Campbell, Esq., LL.D., who is likewise an attorney-at-law.

The Supreme Court of Civil Justice is held four times a year in Georgetown, and is conducted by the three judges, who sit together. It decides in all cases or lawsuits above the value of 50*l.* sterling. Appeal from the decision of this court is allowable in civil suits of the value of 500*l.* and upwards.

A Supreme Criminal Court is held in Georgetown once every three months for the county of Demerara, and a similar court is held quarterly in Essequebo and in New Amsterdam for the county of Berbice. One of the three judges always presides, but in cases of difficulty or importance the three judges sit together on the bench. The jurors are summoned in rotation throughout the colony, and a printed list of persons qualified to sit as jurymen for the several counties is published, at stated times, in the *Royal Gazette*. The system of trial by jury has hitherto been found to answer very well in the colony, and appears to give general satisfaction, except sometimes to the jurymen themselves, when required to be locked up for twenty-four hours and upwards without nourishment.

An inferior Court of Criminal Justice is held in each of the districts of Demerara, Essequebo, and Berbice, and consists of one of the puisne judges, president, and not less than three justices of the peace, one of whom is generally the stipendiary magistrate of the district.

The jurisdiction of this court is limited to a fine not exceeding 50*l.*; to imprisonment, with or without hard labour, for a term not exceeding twelve months; or whipping not exceeding thirty-nine stripes, in the case of males

only. A session is held in Georgetown on the last Thursday in each month, while six sessions in each year are held at each of the police-stations at Capoey, Belfield, Hague, and Goed Fortuin, first circuit; and Mahaica, Fort Wellington, New Amsterdam, and Albion, for the second circuit.

The offices of the colonial receiver-general and of the financial accountant are likewise of great importance and responsibility. The head of the former department is G. G. Lowenfield, Esq., and of the latter J. C. Schade, Esq.

The Government secretary's office is conducted by the Hon. W. Walker, the present talented and popular acting lieutenant-governor, aided by an assistant Government secretary, the Hon. W. B. Wolsely. In New Amsterdam there is also an assistant-secretary, L. D. Nieuwerkerk, Esq.

The administrator-general's office has been already noticed. Originally known as the "week's-kamer," it was afterwards called the "orphan chamber," with officers called recorders, and others to conduct its duties. The orphan chamber was abolished in 1844, and the administrator-general's office was established by ordinance in 1844. The officer first appointed was John Kennedy, Esq., the present auditor-general, who, after a service distinguished by probity and talent, resigned in 1851. His successor is the Hon. John Daly.

The important offices of the registrars of Georgetown and New Amsterdam were remodelled during the administration of Governor Light in 1844. This department has been frequently the seat of serious irregularities, the duties of the several officers employed not having been sufficiently defined. The present useful organisation of the office was effected by an ordinance passed by the governor and Court of Policy on the 12th of October, 1844. By this ordinance, and subsequent

amended ones in 1845, 1846, and 1852, the offices of the registrars of the counties of Demerara and Essequebo, and of Berbice, were divided into two departments, the "judicial," and the "registrarial and notarial." The duties of the several officers were also distinctly stated and defined by the same ordinances, as well as the manner in which the fees received should be apportioned and divided.

The marshal's office of British Guiana is one of the most valuable establishments of the colony. Since its first organisation it has undergone various modifications in accordance with the changes of society; but, as at present constituted, it is most ably and satisfactorily conducted. In the year 1847 (November 1st), an ordinance was enacted by his Excellency Governor Light and the Court of Policy, regulating the duties of the office, repealing former ordinances, and placing the marshal's office under the sole control of the provost marshal, who was henceforth to receive all the fees and revenues of the office, and to provide for the due performance of its duties. He was required to give security to the amount of 4000*l.* sterling for the faithful performance of his duties, and to be responsible and liable for all losses, damages, costs, and expenses, suffered by any one through irregularity or neglect on the part of the office. The present establishment consists of the provost marshal, William H. Holmes, Esq., four ordinary marshals, an accountant, and recorder.

The stipendiary magistrates, as already noticed, were appointed after the termination of the apprenticeship, and their duties have been defined by the various ordinances passed since that period. There were at first fourteen judicial districts, each of which was presided over by one of these officers, whose salaries were paid partly by the British Government, and the remainder

from the colonial chest. These districts are now reduced to twelve in number, and are visited periodically by the circuit stipendiary magistrate.

The present efficient police establishment of British Guiana is a great improvement on the old system, when a few dienaars (servants), as they were then called, attempted, under the direction of the board of police in Georgetown and New Amsterdam, to attend to the many and unpleasant duties which were required of them. The necessity for some material alteration being manifest, an ordinance was passed by his Exellency Governor Light and the Court of Policy, on the 11th of June, 1839, for the establishment of an effective sytem of police. This ordinance has been subsequently slightly altered; but the provisions therein made for the oganisation of this useful establishment were wise and practical. Under the able and judicious superintendence of the several inspectors it has attained considerable skill and usefulness; and, with the zeal and activity of the present efficient chief of the establishment, it promises to become one of the best disciplined and well-conducted corps of this description anywhere to be found; indeed, the activity, tact, and sagacity of this force has been already proved, and its existence has conferred a considerable boon on the members of the community. It consists at present of an inspector-general, R. G. Butts, Esq., and inspectors for the three counties; 2 sergeants-major, 25 sergeants, 14 corporals, 190 privates, 35 river policemen, 4 pioneers, 40 horses; besides medical officers, bookkeeper, clerk. The total expenses of the police establishment for 1852 was about 100,000 dollars. A certain number are provided with rifles, and are taught the exercise and drill of soldiers. They are also employed to carry the letters of the "inter-colonial postage" from one part of the colony to the other.

From the year 1812, when the name of the capital of the colony was changed from Stabroek to Georgetown, to 1837, the management of the town was entrusted to the board of police, who were first appointed by the lieutenant-governor and Court of Policy in 1812. "Town regulations" and "consolidated acts," for the better regulation of Georgetown, were published at that and subsequent periods, viz., in 1812, 1827, and 1828. But on the 1st March, 1837, an ordinance was passed by the governor (Sir James Carmichael Smyth) and the Court of Policy, "To establish a mayor and town council for the superintendence of Georgetown." Georgetown was accordingly divided into eleven wards. One town councillor was returned by each ward. The qualification for town councillor was the ownership of a house of the value of 8000 guilders or upwards, within the city of Georgetown; and the qualification of voters was the possession of a house in Georgetown of the value of 3500 guilders.

The first election of town councillors took place on the 31st of March, 1837, and one out of the number was appointed to be the mayor. The mayor and town council were vested with the powers formerly exercised by the board of police; a secretary and receiver of town taxes were appointed, but the two offices have been since blended into one; meetings were appointed to be held at stated periods, and full minutes kept of all proceedings. The mayor and town council were required to report to the Court of Policy in each year, and power was given to them to levy and sue for taxes. The ordinance passed in March, 1837, was subsequently slightly altered, and amended at later periods, but the changes made have not been very important, and it still continues to be the authority by which the city of Georgetown is superintended.

It is the duty of the town council to keep the streets, bridges, canals, and trenches in order; to attend to the drainage and general sanitary condition of the city; to prevent the existence of nuisances (public or private), the straying of cattle, as well as to superintend the markets. For these and other purposes a town superintendent is employed, and, with the assistance of the convict gangs and hired labour, the necessary work is satisfactorily accomplished.

There are two markets in Georgetown, both of which are admirably constructed, with numerous stalls, offices, and enclosed with handsome iron railings. The water-side market was opened in 1844, and cost 56,934 dollars. The Main-street market was established in 1852, at an expense of 12,176 dollars. In March, 1842, the mayor and town council enacted a bye-law and regulations for the markets of Georgetown, which were up to that period conducted in a very irregular manner, and were held in unsubstantial and inconvenient buildings. In April of the same year an ordinance was passed, to empower the mayor and town council to raise the sum of fifty thousand dollars on redeemable bonds, in order to defray the expenses of establishing the water-side market; and at a later period, a similar plan was adopted for constructing the market in Main-street. The fees received for licenses and for the hire of the stalls belong to the town council, and have already enabled that body to redeem the bonds issued for the erection of the new or water-side market, while the one in Main-street is in process of liquidation.

The petty debt court was established in the year 1835. It is presided over by a justice of the peace, for examination of cases not exceeding 7 dollars 33 cents in value, and by two justices, for sums not exceeding 5*l.* or 24 dollars. Its sittings are held on Saturday in each week.

The police office of Georgetown was established in 1839. It is presided over by a magistrate, William M'Nulty, Esq., LL.D., who is also pro-sheriff of the county of Demerara. This office takes cognisance of cases similar to the police offices of England.

The vice-admiralty court is conducted on the same rules and practice as that of Great Britain. It is composed of a sole judge and commissary, his Honour William Arrindell; a Queen's advocate, the Hon. R. R. Craig; besides advocates, proctors, registrar, and marshal.

The office of high sheriff has lately been abolished, as well as the duties of the sheriffs of the other counties, which now devolve on the puisne judges. The former office had long been occupied by his Honour George Bagot, a gentleman whose long and meritorious public services have earned for him the honoured and merited title of the Patriarch of the Colony. In retiring from a prolonged and useful public life, he bears with him the respect and affection of the colonists, in whose cause he has long and faithfully laboured.

The necessity for the establishment of fire companies exists equally here as in other communities; in some respects, even more so, for almost all the houses and other buildings are constructed of wood, and the carelessness and even recklessness of the lower classes, in respect to the use of fire, is proverbial. Indeed, it is a matter of surprise, in consequence of the common negligence exhibited by servants and others, in kitchens and bedrooms, that fires are not more frequent. It is not an uncommon thing to notice negroes, coolies, and Portuguese cooking their food in iron pots on the floors of garrets and bedrooms in the upper stories of old houses, the wood of which is dry, and almost as combustible as tinder. These coal-pots, as they are called, are heated by wood, coal, or coke, resting on iron bars, which are themselves

supported by bricks on the floor. I have been surprised to notice that, when fires have occurred here, the combustion is languid and feeble to what it is in colder climates; indeed, from this circumstance, rather than owing to the efficient working of the fire company system, it appears to me that, in general, the evil consequences are not greater.

With the exception of the burning of Megass Logies, fires are neither common nor extensive in British Guiana. The only severe fire on record is one which occurred in Georgetown on the 29th of December, 1828, by which the whole of the houses in American-street, and many others in Water-street, were destroyed; the value in loss of property being several thousand dollars.

There are five public fire-engines, which are superintended by captains—respectable tradesmen appointed for that purpose—who look after the state and working condition of each engine, and have them exercised at stated periods; in the event of fire, they are empowered to engage twelve extra men for each engine, who are paid for their labour; but it is never from the want of volunteer or other labour that the engines, in cases of fire, do not prove so efficient as could be wished, but rather to the too frequent scarcity in the necessary supply of water.

In 1842, certain bye-laws and regulations for the establishment of a fire company in Georgetown were enacted by the mayor and town council. The duties of the superintendents, assistant-superintendents, and firemen were laid down, and the remuneration for their several services fixed.

Boards of health were first established in this colony by an ordinance passed by the governor (Sir Benjamin D'Urban) and the Court of Policy on the 25th of August, 1832. Central and local boards were established in

Georgetown and New Amsterdam, and in the several parishes throughout the districts of Demerara, Essequebo, and Berbice. Since that period there have been occasional changes in the appointments and duties of such boards. In 1851, Dr. Gavin, one of the medical inspectors appointed by the British Government to report upon the sanitary condition of the West Indies, visited this colony, and drew up an elaborate health bill, which passed the Court of Policy in 1852, but has been a dead letter ever since. It was found too complicated and cumbersome to work satisfactorily in a country like this.

An ordinance passed in 1853, on the subject, appointed a local board of health for the parishes of St. George and St. Andrew, including the city of Georgetown; and for that purpose repealed so much of ordinance No. 5, of 1852, as constitutes the mayor and town council the local board of health. This local board consists of the members of the Court of Policy, the mayor, the presidents of the board of hospitals, and the board of church and poor funds; the surgeon-general, the gaol surgeon, the health officer, the inspector-general of police, and the financial representative for the city of Georgetown. This board has a paid medical officer, Dr. Johnstone, besides a secretary and other subordinate officers.

The board of health of New Amsterdam consists of the presidents of board of superintendence and board of poor funds, the financial representatives of the county, the hospital surgeon, the gaol surgeon, the health officer, and inspector of police. The country boards are composed of the vestrymen of the parish, along with the magistrate, clergyman, and doctor of the district.

Considering the limited population and finances of the colony, there are few places of the same extent which can surpass British Guiana in institutions of a charitable nature. Their number is certainly not great, but the

liberality extended towards them has excited the admiration of strangers visiting these shores. In the times of slavery a surgeon-major was supported by the colony, whose duty it was to attend the sick Government negroes and prisoners. In 1797 his salary was raised from 750 guilders per annum to 850, or about 60*l.* a year. This officer was generally attached to the army or allowed civil practice. A medical officer was also appointed for each of the three rivers, to examine and report upon the corpses of persons found dead.

In 1806 a colonial and military surgeon was appointed, with a salary of 3000 guilders per annum, or about 200*l.* The nucleus of the present colonial hospital was also formed about this period. It was ordered that all colonial negroes were to be attended in the military hospital at the rate of ten stivers per day, and subsequently a separate hospital was prepared for their reception, the surgeon attached to which was paid a certain sum yearly, and was bound to provide everything requisite for their board and maintenance.

In 1838, during the administration of Sir H. Light, a seaman's hospital was erected, and maintained at the expense of the colony, a certain tax being levied on the shipping towards its support.

Shortly afterwards, at the instigation of the late Dr. Smith, the colonial hospital system was remodelled, a larger building was temporarily fitted up as a hospital, and the greatest care and attention bestowed on the patients, for whom a resident medical officer, with proper assistants, was provided.

In 1843 the sum of 205,000 guilders was granted by the Combined Court, for the purpose of erecting the present noble hospital, and in the following year it was opened for the reception of sick persons. A great deal more money has been spent upon it than the sum origi-

nally named, and, including the expenses of the seaman's hospital, and a small lunatic asylum in connexion with it, the annual expenses for the last six or seven years have been from 8000*l.* to 10,000*l.*

It is capable of containing about 300 patients, but as many as 400 have been, under urgent circumstances, accommodated and treated, whilst a larger number of out-patients daily receive advice and medicine. The principal inmates for many years past have been immigrants, especially Portuguese, and coolies. It is under the immediate control of the able surgeon-general, Dr. Blair, who visits it daily, and who is materially assisted in his arduous duties by one or more resident surgeons. There is a board of directors, two of whom are required to visit it at stated times; they meet occasionally to conduct the general management, and have a paid secretary, who keeps the accounts.

	Dol.	Cts.
The ordinary expenses of the Colonial Hospital in Georgetown, for 1852, was	43,272	61
" " Seaman's Hospital ditto, was . .	8,805	16
Salaries of medical and other officers of the two hospitals . .	8,269	77
Total	60,347	54

The sick and poor in New Amsterdam are provided for by a Board of Church and Poor's Fund, consisting of a president and five members, besides a secretary, the duties of which are similar to those of the board in Georgetown. There is an excellent hospital in the town, the ordinary expenses of which, for 1852, amounted to the sum of 17,658 dols. 39 cents, including the expenditure of the asylum department. Besides this, the services of an able visiting physician (Dr. Hackett) are secured by a salary of 1680 dols. This excellent institution was established in 1837, and is managed by the president and members of the Board of Church and Poor's Fund of Berbice. It administers relief to all aged, infirm, or

sick persons, who are destitute, and to all seamen belonging to vessels trading to the port of New Amsterdam, Berbice, and to those employed in the light-ship or *pilot service.*

The Georgetown Orphan Asylum has lately been instituted, and promises to become one of the most creditable establishments of the colony. Its principal advocate and supporter has been the chief justice, Mr. Arrindell, who, with his excellent lady, are unremitting in their attention to the numerous inmates who have already crowded into its handsome and hospitable walls. It has hitherto received the cordial support of the charitable of nearly all the religious denominations of the community, and has likewise obtained a liberal grant from the local legislature.

By an order in Council of the 10th of March, 1824, "the Board of Church and Poor's Fund of the United Colony of Demerara and Essequebo" was established, to consist of a president and six members, viz., the senior ministers of the English, Scotch, and Dutch churches, and three other parties nominated by the governor. The duties of this board are "to receive, manage, administer, and superintend the application of the imposts leviable for the purposes of the institution," in the same manner as was done formerly by the consistory of the Reformed Church of Holland since 1792. In January, 1830, an act was passed by the lieutenant-governor and Court of Policy for regulating the claims of this board upon the property of persons receiving maintenance from it. This useful establishment relieves the wants of a large number of poor and indigent persons. It is partly supported by a 2 per cent. duty on all public sales, whether by the provost-marshal or by licensed auctioneers, and the balance of its expenses is paid out of the public treasury. The average number of the out-

door poor receiving weekly allowances is about 850. The almshouse contains about 150 inmates, who are chiefly infirm, blind, lame, old, and helpless people. They are provided with lodging, food, and raiment. In sickness these paupers, as well as the outdoor ones, are visited by a medical officer (the intelligent and humane Dr. Clifton) appointed for that purpose, who also supplies them with the necessary medicines. The total expenses of this useful establishment for 1852, including almshouse expenses and money paid to the poor, was 32,547 dols. 32 cents, besides the sum of 4079 dols. 73 cents, being the amount collected by the 2 per cent. duty on public sales.

The office of the custom-house has undergone numerous changes in these settlements since its first establishment. The present institution for the collection of the colonial import duties was established in 1849 (see ordinance No. 18). It consists of an inspector of colonial import duties, C. Bagot, Esq., who also holds the office of comptroller of her Majesty's customs and navigation laws; a clerk and warehouse-keeper, and other clerks and lockers, five in number, for Demerara and Essequebo; an outdoor supervisor of aid-waters, J. Taggart, Esq., and twelve assistant aid-waiters. The crown department for Demerara and Essequebo consists of the comptroller of customs and navigation laws, and a clerk and assistant. The custom-house of the county of Berbice is in New Amsterdam, and consists of a sub-inspector of colonial import duties, a clerk and warehouse-keeper, and two or three aid-waiters.

The post-office, situated in the Public Buildings, is conducted by the deputy postmaster-general, E. T. E. Dalton, Esq. Letters of the value in postage of 2000*l.* per annum are received from Europe. This officer also superintends the inter-colonial postage, which receives

the support of the local government, and enables persons to extend their correspondence in safety to the remote districts, the mail bags being placed under the charge of the policemen of the several stations. The post-office in New Amsterdam is under separate control.

Georgetown was constituted a free warehousing port, by an order in Council, on the 26th August, 1839, and New Amsterdam in 1840. Rules and regulations were early made for regulating the ports and harbours of Demerara and Berbice, which have been subsequently revised and altered. An ordinance to establish quarantine in the ports of British Guiana was passed in 1831, by Sir Benjamin D'Urban and the Court of Policy; and was further extended and amended by Sir James Carmichael Smyth and the Court of Policy in 1838. There is at present a harbour-master and superintendent of quarantine, H. C. Southey, Esq., a relative of the late Poet Laureat. The health-officer of the port, Dr. Johnstone, visits with the harbour-master the ships on their arrival. In New Amsterdam, Berbice, there are similar officers.

The Royal Agricultural and Commercial Society of British Guiana was instituted 18th March, 1844. This useful and well-conducted institution has the same objects, and is founded upon similar principles to those in Great Britain. It possesses a large meeting and reading room, a good library, and receives the most interesting magazines and newspapers from Europe and the United States. It has been lately proposed to establish a museum in connexion with this institution, and already materials and objects suitable for the purpose have been contributed.

The Astronomical and Meteorological Society of British Guiana was established in 1844. Although receiving an annual grant from the colony, it has not met with

that private support among the inhabitants to which the usefulness of the institution fairly entitles it. The observations made, and the tables prepared by the intelligent and scientific observer, Mr. Sandeman, have already proved of great use and interest to society.

There are two banks in Georgetown, with branch establishments in New Amsterdam. The British Guiana Bank was incorporated by an ordinance enacted by Sir James Carmichael Smyth and the Honorable Court of Policy, on the 11th November, 1836, in consequence of a petition presented to that body by the inhabitants, showing the necessity for such an establishment. It commenced business on the 15th May, 1837, and has a capital of 1,400,000 dollars. The Colonial Bank of London, incorporated by royal charter in 1836, with a capital of 2,000,000*l.* sterling, has an important branch establishment in Georgetown, which commenced business on the 15th May, 1837. There is a "Savings Bank" in Georgetown, which is, I believe, under the charge of the receiver-general.

Since the last notice of the monetary changes of the colony, in 1825, the coin chiefly in circulation for many years was the Mexican dollar, of the value of three guilders, or 4s. 4d. Since the establishment of the present useful banks, the notes issued by them are in general circulation, and constitute the only paper money in the colony.

In 1850 copper coin was introduced, and an ordinance* was passed, rendering it a legal tender within certain limitations, besides enacting other rules respecting its circulation; but after a feeble trial, it failed to come into general use, and is now scarcely or never seen even among the very poor.

The value of the Mexican dollar became reduced to

* This ordinance was subsequently disallowed by the Home Government.

4s. 2d, and for the last few years it has been gradually withdrawn from the colony in consequence of its depreciated value. To meet the necessary demand of silver, British coin has been largely introduced, and is now in general circulation. No gold coin is in use to any extent.

The largest edifice in the city of Georgetown is the "Public Buildings," the name given to a large building, which is divided into offices for the principal official establishments of the colony. It presents an imposing appearance in front; but its situation, though convenient, is not so picturesque as it might have been owing to the neighbourhood of several other structures, which cannot vie with it in beauty, and only serve to mar its effect. It comprises a central portico, with a cupola at its summit. The building is two stories high, and on either side of the portico a range of offices or apartments extend to the wings which project in front from each extremity. Its greatest length is from east to west, while the wings extend from north to south. In the upper floor of the left wing is situated the hall of the Court of Policy, with adjacent offices for the Government secretary, the assistant secretary, and clerks, together with an apartment or office of the attorney-general. In the lower portion of this wing is the office of the Custom House, pilot committee, and other functionaries. In the upper part of the opposite, or right wing, the hall of the Supreme Courts of Civil and Criminal Justice is situated, with the office of the chief justice. The central portion of the upper floor is divided into apartments for barristers, for the administrator-general, for the financial representatives, and for his excellency the governor. A massive gallery extends in front of the central portion of the building, both on the first and second floor. The lower part of the right wing is divided into offices for the registrar and his subordinates, while on the ground floor of the centre offices are provided for the administrator-

general, for the auditor-general, for the provost-marshal. the deputy postmaster-general, the financial-accountant, the receiver-general, and other functionaries. This fine building was commenced in 1829, and was completed and occupied in 1834. It has cost altogether about 60,000*l.* sterling. It is built of brick, with the exception of floors, roof, doors, and stairs, which are constructed of the valuable woods of the colony. The galleries are of iron; the roof is slated, and by means of large gutters the rain is conducted to two large cisterns, which are placed at the back of each wing.

In the year 1845 a prospectus was issued of a "Demerara and East Coast Railway," to run between the city of Georgetown and Mahaica village, a distance of about twenty miles. The capital proposed was 100,000*l.* or 480,000 dollars, in 10,000 shares of 10*l.* or 48 dollars each; but it has been necessary to borrow more money to carry on the work, as the difficulties and expenses have been greater than anticipated.

It was commenced, under the superintendence of Mr. Catherwood, in November, 1846, and after considerable difficulty in the way of labour, and the necessity of forming a substantial foundation for the line on such a swampy soil, it was opened for traffic on the 3rd November, 1848, as far as the village of Plaisance, about five miles from Georgetown, and extends at present as far as Victoria, a large village, about sixteen miles distant. The number of stations is six, viz., Georgetown; Plaisance village, 5 miles; Beter Verwagting, 7½ miles; Vigilance, 10 miles; Plantation Enmore, 12½ miles; Victoria village.

It has been chiefly owing to the skill and industry of Mr. Manifold, the engineer who succeeded Mr. Catherwood, that the line has hitherto progressed so far. Since Mr. Manifold's retirement, in 1852, his place has been

ably supplied by the present general manager, Mr. Cameron. The cost of the undertaking to the 31st of December, 1852, was 230,000*l.* sterling. The amount received for traffic, passenger and freight, up to the 31st of December, 1852, was 12,000*l.*

The light-house is situated in Kingston district, Georgetown, at the angle of land formed by the east sea coast and mouth of the river Demerara. It is built of brick, and has an iron roof and gallery, from which latter a splendid view of the city may be had. The height of the building is about 100 feet. At night, a powerful fixed light is burned, which may be seen many miles off. The materials of the structure were imported from England, except the wood for the floors and inside stairs, which were the production of the colony. It cost about thirty thousand dollars, and was finished in 1830. It is under the management of the "Pilot Establishment," and has a competent staff to attend to the necessary duties.

From the period of its erection up to the year 1849, the approach of vessels was announced by signal flags placed on a staff at its summit, but since that period the telegraph of flags has been superseded by the "semaphore," which is found admirably adapted for that purpose. By this method, communication is established with the light-ship, or floating light, which was placed on the Demerara Bar in 1838, and from which vessels coming to Georgetown procure pilots.

At a former period of our history the troops were stationed in wooden buildings, arranged for that purpose in Strabroek. They were subsequently transferred to Kingstown (the present Kingston), where what is called Fort William Frederick was erected, together with other buildings for the sick, officers, &c. In the year 1799 (January 31st), at a meeting of the Court of Policy,

Mr. Van de Paadevort offered the land of plantation Eveleary, about fifty-five acres in extent, for the sum of thirty thousand guilders, but the Court refused it on those terms, and offered him the sum of sixteen thousand guilders. Subsequently, appraisers were appointed on each side, and the lands, with the buildings it contained, were purchased by the colony for the sum of forty-seven thousand three hundred and seventy-four guilders. Two large wooden buildings, situated at the commencement of the east sea coast, were converted into barracks, and were styled the York and Albany Barracks, but in the time of Sir Benjamin D'Urban, or about 1825, the present splendid barracks of Eveleary were built at the expense of the British Government. They contain apartments for about twenty officers, and separate buildings for about four hundred men, exclusive of the engineers and artillery, who occupy the buildings about the fort, which, after all, does not deserve the name, but is simply a sea battery, mounting eighteen guns, and but little calculated to resist the approach of an enemy's steamer. The number of guns could easily be increased, however, for there are many others which are not mounted, but which are lying about inside the fort. Another range of buildings, close to the Kingston Bridge, is in use by the military, and capable of holding about one hundred men.

From a very early period the necessity of a local newspaper was felt. It was required at first chiefly to announce notices and appointments of different kinds, public and private vendues or sales, and to publish the enactments or ordinances of the governors and Court of Policy, as well as regulations, despatches, orders in Council, &c., when received from Europe. By-and-by, a little opinion and occasional argument was hazarded about the affairs of the infant colonies, until by degrees

the sentiments of the colonists took a bolder tone, and the variety of interests consequent on the progress of society and the growth of the settlements led to the expression of the views of the several parties. The official paper was no longer found sufficient for the wants of the community, and a variety of publications have been issued in Demerara and Berbice, as contemporaries of the various *Gazettes*, but either directly hostile to the local Government and its supporters, or with such different views and principles as to lead to the conclusion that they were the organs of the several political parties into which society was divided. The career of many of these publications has been brief, and the fate of several of them unfortunate, although the talent with which, in general, they have been conducted, is creditable to the community. Unfortunately, the language of calumny and slander, of private pique and personality, has prevailed in particular instances to an unwarrantable extent, but, as a general rule, although at first supported by the vicious taste, to which it pandered, of a small section of the community, the good sense of the majority prevailed, and the papers either ceased to be published altogether, or met with but a very limited and unremunerating circulation and support.

At present there are two newspapers published in Georgetown, on alternate days, while a third, the official *Gazette*, is issued twice a week, and contains merely a list of official notices. Of the two newspapers, the *Royal Gazette*, issued on Tuesday, Thursday, and Saturday, is the oldest in existence, having been in circulation since 1816. It is more or less an official organ, and the present editor possesses considerable experience and knowledge. This paper receives an annual grant, for the publication of general notices and official documents.

The other newspaper, the *Colonist*, appears on the

alternate days of the week, and is edited by a gentleman of classical attainments, and of literary ability. In New Amsterdam, Berbice, there is but one local paper, the *Berbice Gazette,* which is ably conducted. Besides treating of local matters, these newspapers convey to the reading public the most interesting extracts from the numerous British and foreign periodicals of the day.

Public and private establishments for the purposes of education are not wanting in number in British Guiana; but with some few exceptions, the system at present in force is very imperfect, especially in the country districts, where the attendance of scholars is limited and irregular, the qualifications and characters of the teachers generally inferior, and the remuneration and advantages offered too slight to command emulation or improvement.

The office of inspector of schools was established in 1850, and it has certainly been of advantage to the country; but the difficulties of the subject of education are as great here as elsewhere. The present inspector, G. Dennis, Esq., is already known to the public by his reputation as an author, and is eminently qualified by his abilities and literary attainments to give an impulse and success to the important department placed under his charge. His late report on the subject of education, and of the schools in this colony, is ably written, and gives a correct and lucid exposition of the present system of education, its necessities and requirements, and contains practical and judicious suggestions, together with valuable statistical details, in reference to the various schools. The sum expended in 1852 for the service of schools throughout the colony, for salaries, grants, repairs to buildings, &c., amounted to twenty-seven thousand two hundred and eighty dollars and eighty-nine cents.

The useful and well-conducted institution of Queen's

College was established in 1844, and has proved of eminent service to the community by affording its members an opportunity of sending their children to a college where they can receive an excellent education, in many respects not inferior to similar establishments in Europe and America. The present principal, the Rev. George Fox, is admirably qualified by his acquirements and character for the position which, in some measure at a sacrifice to himself, he so worthily occupies; and during his superintendence the prospects of the college have materially improved. The number of scholars at present amounts to sixty, a few of whom are children of poor persons, destitute of one or both parents, and are educated gratis. There are assistant masters, who give instruction in the usual branches of education, and who are deservedly esteemed for their competency and attainments. There are several private schools in Georgetown for children, conducted by ladies of respectability.*

There are at present four places of interment in Georgetown and its suburbs, viz., Werk en Rust, Bourda's Walk, the New or Le Repentir, and the military burial-ground. The oldest burial-ground is that of Werk en Rust, which, in consequence of being choked up with the dead, is now no longer used for that purpose.† In the year 1797, a part of plantation Werk en Rust was offered by the proprietors to the Court of Policy as a fitting spot for a public burial-ground. The space was 42 roods in length in front, and 60 roods deep, comprising altogether an area of about 8½ acres. The price asked was 20,000 guilders, or about 6200 dollars; but eventually the proprietor accepted the offer of 10,000 guilders,

* See Appendix, for some tables which afford an insight into the nature of the colonial schools. These tables are taken from the Report of the Inspector of Schools "on the extent and condition of education in British Guiana."

† According to the ordinance of 1847, no persons are to be allowed to be buried there for twenty years or more.

which was made by the colony. Regulations were subsequently published relative to the interment of bodies, and a public grave-digger was appointed, with table of fees, &c., 5th of February, 1803. In the event of parties not complying with the regulations, a penalty of 500 guilders was inflicted. The nature of the instructions to the sexton of this colonial burial-ground required him to keep it effectually cleaned and drained, that the graves be dug 6 feet deep by 3 broad, that the graves be not scattered, but placed at intervals of 2½ feet from each other, that the burial-ground be divided into four parts.

After the purchase of part of the lands of plantation Eveleary, as a site for military barracks, &c., it became a custom to inter officers and soldiers in parts of the land set aside for that purpose, and the practice obtains at the present day; any person holding military rank, or having served in a military capacity at any former period of his life, is entitled to be interred in the Eveleary burial-ground.

The third burial-ground, that of "Bourda's Walk," comprises a portion of land formerly part of Vlissengen, and belonging to a Dutch gentleman of the name of Bourda. It was formerly intended for a private cemetery, and was so used for many years; but finding it a suitable place of burial, many persons of property applied for permission to inter their relatives there, which, on the payment of an entrance fee, they were allowed to do. The same practice continues to the present day. The sum asked varying according to circumstances; and, as a speculation, it has been leased by several persons for a term of years.

The fourth, or New Burial-ground, was lately purchased by the colony, in the year 1849, for the sum of 8400 dollars. It comprises a tract of land of about 22

acres, part of the old plantation "Repentir." It is divided into separate portions for the interment of members of the various churches now in existence. Thus, one-fourth is allotted to the Church of England; one-eighth to the Roman Catholic Church; three-eighths to the general burial-ground; the remaining one-fourth being unappropriated at present.

There are five principal gaols in British Guiana, besides temporary lock-up stations, the total cost of which, for the service of the year 1852, was 24,844 dols. and 65 cents, less the sum of 431 dols. and 8 cents, received for dieting military prisoners. These gaols are situated in the city of Georgetown, the town of New Amsterdam, in Mahaica, in Waakenaam, and in Capoey districts.

The Georgetown gaol is the largest and most important. It was established many years ago, and, as at present conducted, reflects credit on the colony for the cleanliness, order, and discipline maintained by its officers. It consists of several detached and solid buildings, all of which are enclosed by a lofty wooden paling, which is extensively spiked and armed with a *chevaux de frise* of crossed iron spikes at the top. The building, for the reception of criminal offenders, consists of a substantial three-story edifice made of brick, and which contains about 80 cells, in each of which several prisoners may be confined if necessary. In this building the "treadmill" is placed, and there is space for in-door exercise. A kind of chapel is also fitted up, where divine service is performed every Sunday by the visiting chaplains.

A large wooden building adjoining is reserved for the use of debtors, separate apartments for female prisoners, as well as a fine infirmary or hospital, dwelling-house of the gaoler, kitchen, and other out-buildings, are all situated within the precincts of the gaol, which, for clean-

liness, ventilation, and order, is nowhere surpassed. It is capable of containing about 200 prisoners; the number at present confined is as follows:

91 male; 14 female; 13 in hospital—total, 118.*

In 1838 there was a proclamation by his Excellency Governor Light, of "an act for the better government of prisons in the West Indies," enacted by her Majesty the Queen in Council, which directed the appointment of inspectors of prisons, and established certain rules and regulations to be enforced. The present inspectors of prisons are the chief justice, the attorney-general, the Government secretary, the senior elective member of the Court of Policy, the stipendiary magistrates, the inspector-general, and the police magistrate.†

The penal settlement is situated on a rocky height on the banks of the river Mazaruni, close to its junction with the Essequebo, in 6 deg. 24 sec. N. lat., and 58 deg. 45 sec. W. lon., and presents an imposing appearance to the traveller who sails up that noble river. The eminence on which this convict establishment is placed commands a view of the river Essequebo, and two of its principal tributaries, the rivers Mazaruni and Cayuni. It is perfectly isolated from inland communication, vast and impenetrable woods surrounding it on all sides, except where the river washes the foot of the height, thus rendering it a suitable spot for the confinement of hardened criminals.

It was established in 1843 by Governor Light, who appointed a superintendent, a surgeon, and the necessary subordinates. The first superintendent, the late Mr. Horan, was very active in laying out the grounds and building suitable cells for the reception of the first gang

* August 3, 1853.

† See Appendix, for a tabular statement of the number of prisoners confined in the gaols.

of prisoners who were sent there. None but males are transported, and only those whose term of confinement is for a long period, or for life. The original buildings have been since superseded by recent structures, which consist of a spacious wooden house for the superintendent, of smaller houses for the other officers, and a range of cells or prison-rooms, formed of the granite stone which abounds in the neighbourhood, and which is worked by the prisoners. Large quarries have been excavated, and the fragments either broken up or sent in masses to Georgetown for building and road-making purposes. Each prisoner is confined in a separate cell at night, and during the day is kept at work, unless ill, when he is sent to the hospital.

The working convicts are mustered each morning and are distributed into gangs, each of which has one or more guards, who are armed with rifle and sword, if considered necessary by the superintendent. The gangs are employed in the stone quarries, in cutting, splitting, or sawing wood; in clearing land, in field or garden work, according to the views of their superiors.

At Mr. Horan's death, in 1845, he was succeeded by Mr. Crichton, who added considerably to the improvement and success of this useful institution. He laid out the grounds in a very ornamental manner, and planted them with bread fruit and other trees, vegetables, &c., besides building a great portion of the present structures, and otherwise opening up the capabilities of the place.

A commission of inquiry appointed by the acting Lieutenant-Governor, W. Walker, Esq., in 1848, having involved Mr. Crichton in certain strictures connected with the establishment, he was superseded by Lieutenant Bott of the Royal Navy, who, on the 8th September, 1849, was removed from Leguan, where he acted as a stipendiary magistrate, to the superintendence of the

penal settlement. This gentleman had considerable experience in the general management of prisons and convict establishments, and the settlement was undoubtedly benefited by many of his suggestions and arrangements. He was, however, removed from the situation in November, 1851, and his place temporarily filled up by the late Mr. Van Waterschoot, Inspector-General of Police, who continued to improve the condition of the settlement, and to give great satisfaction in its superintendence, until his death, which took place there in March, 1852, when the present active superintendent, Mr. Cartwright, was appointed by his Excellency Governor Barkly. This gentleman was one of the stipendiary magistrates of the colony, and since his appointment the affairs of the settlement have been quietly, usefully, and skilfully conducted.

The present staff consists of a superintendent or resident commissioner; assistant superintendent and storekeeper; superintendent in charge of detached labour and agriculture; a resident surgeon; a schoolmaster and catechist; a clerk and measurer; four overseers; four sub-overseers; twelve guards; one carpenter, and one blacksmith. Their united salaries amounted to 14,158 dollars for the year 1853. The total expenses for the service of the penal settlement in 1852 amounted to nearly 20,000 dollars. From this sum, however, must be deducted the value realised for the work performed during the same period. This amounted to 8017 dollars and 70 cents. The actual revenue from produce sold was 6162 dollars, but a considerable quantity of green-heart planking, broken stone, and shingles ready for delivery remained on hand. With the admirable discipline and habits of industry introduced and promoted by the present resident commissioner, this useful establishment promises to become in time almost self-sup-

porting. The religious and moral training of the convicts is, as far as possible, carefully attended to, and many of them have been taught to read and write.*

The rivers of this colony being large, and the difficulty of establishing bridges being difficult in consequence of the size and powerful currents of the larger streams, it was found necessary at a very early period to establish a ferry across the river Demerara, and another across the river Berbice. The boats employed on this service were formerly very bad. In 1797 the ferry across the Demerara was farmed for six years, and the Commander and Court of Policy offered the sum of ten thousand guilders to put it on a proper footing; the charges then established were six bitts for a white person, and two for negroes; but Government negroes had a free passage over. Since this period the ferry has been periodically contracted for by different parties, and annual grants allowed to have it conducted in a proper manner in Demerara. From the year 1830 steamers have been engaged for the ferry of the river Demerara, and the last contract was entered into by Mr. George Booker, who unfortunately has not as yet been able to procure a steamer in England suited for the purpose, and according to the terms of the contract of 1852. The old steamer lately applied to that purpose is completely useless, in consequence of deficient machinery; so that persons at present are compelled to put up with the system of fer-

* The following table gives an account of the present inmates:

ANALYSIS OF CRIMES OF CONVICTS IN THE YEAR 1852.

Murder.	Rape.	Arson.	Homicide.	Burglary.	Assault.	Forgery.	Theft.	Fraud.	Broke out of gaol.	Rioting.	Wounding.	Desertion.	Bestiality.	Highway Robbery.	Killing animals.	Damaging machinery.	Total.
5	25	8	8	56	3	4	58	1	...	...	20	...	...	8	4	1	201

riage complained of in 1797. The new steamer is, however, shortly expected, and it is to be hoped will realise public expectation. An annual grant of 2333 dollars is allowed by the colony to the contractors. The ferry across the river Berbice has not as yet been supplied with a steamer, and large boats are used for the purposes of transit.

There are toll-bridges established at the small streams of Mahaica, Mahaicony, and Abary, in the county of Demerara, and one at the river Canje, in the county of Berbice. Steam communication is also established between the three counties of Demerara, Essequebo, and Berbice. It was formerly the custom to travel from one river to the other by the colonial schooners, or estate droghers, employed in carrying the produce of the estates for shipment to Georgetown or elsewhere. Frequent attempts were subsequently made to procure one or more steamers to ply between these districts; but from one cause and another the attempts, although carried into execution, were never of long continuance, and were, in consequence, abandoned until lately. An admirable steamer, the *Tyne*, has, however, been imported by a spirited colonist, Mr. Bayles, and plies regularly to Essequebo and Berbice.

CHAPTER III.

THE CLIMATE AND MEDICAL HISTORY OF BRITISH GUIANA — TEMPERATURE — MONTHLY SKETCH OF WEATHER—PRESSURE OF ATMOSPHERE—WINDS—ELECTRICITY—EARTHQUAKES—DEW—HUMIDITY—RAIN—EFFECTS OF CLIMATE ON STRANGERS—GENERAL REMARKS—SHORT ACCOUNT OF SOME OF THE PRINCIPAL DISEASES OF THE COLONY—IMMUNITY FROM CERTAIN DISORDERS—EPIDEMICS—COMPARISON OF MORTALITY BETWEEN THIS AND OTHER COUNTRIES.

BRITISH GUIANA has acquired an unenviable notoriety both in Europe and the West Indies for the insalubrity in its climate, and for the mortality which has occurred among Europeans and others who have visited its malarious shores. An attempt to inquire into the medical history of the country has never to my knowledge been made, although several writers have at different times incidentally alluded to the subject; some, including Hartsinck, St. Clair, and Pinckard, regarding it as inimical to all constitutions except those of the aborigines; and others, among whom we may reckon M. Martin, Schomburgk, and Hancock, assert that the proportions of deaths is not greater here than in many countries of Europe. The reports of occasional travellers have tended to confirm the former belief, and at the present day the popular opinion as regards the healthful-

ness of this colony is decidedly unfavourable; nor can it be denied that it appears to be well founded, when in the scanty annals of the land we find so many evidences of protracted and fatal sickness among troops, immigrants, and others. Upon inquiring, however, into the circumstances, and other conditions connected with the introduction of masses of people into a new country, it will be found necessary to separate the simple effects of climate upon the constitutions of such persons from the many extraneous causes which contribute to produce symptoms and feelings unfavourable to health, and if it be found that causes over which the individual has control operate to the disadvantage of his sanitary condition, surely it becomes only a matter of justice to attribute to the climate only those effects that are exclusively consequent on its action, and to reject altogether those which are brought about only by the moral forces. It is of much importance that this should be distinctly understood, for the question of health is one of paramount interest to every individual, and many persons are induced to settle in various parts of the globe only in consequence of the general belief that such places are favourable to the enjoyment of health; whilst on the contrary, where it is a matter of choice, they studiously avoid countries stigmatised by the opprobrium of insalubrity.

But as there are undoubtedly some countries where epidemic diseases constantly obtain, as for instance, fevers of various kinds on the coasts and rivers of Africa, agues in some parts of Holland, the goitre in Switzerland, so there are others which, although visited by occasional severe and fatal epidemics, yet are not incompatible with the existence of life under many favourable circumstances. Again, it must be remembered that there

are certain temperaments which require particular localities to suit their condition, and it is a matter of every-day experience that some constitutions predisposed to certain diseases are more ready to contract such when exposed to changes of temperature favourable to their development than others whose diathesis is antagonistic to their influence; moreover, a district remarkably affected with the prevalence of any one particular disease is often also notorious for its immunity from many others, so that such districts, although baneful to some habits of body, are actually found to be most advantageous to others. Whilst, therefore, a country may be justly condemned for fevers, dysentery, or local disease, we should not, therefore, conclude that it is unfavourable to health in other respects; and the public, before they adopt the opinion of the decided unhealthfulness of a climate, should be first satisfied that its mortality is constant, universal, and beyond the ordinary average.

The consideration of climate is so intimately connected with the history of disease, that before I enter upon an inquiry into the latter, as connected with British Guiana, I consider it indispensably necessary, in the first instance, to collect as many facts connected with the temperature, humidity, density, and other conditions of the atmosphere as are within my observation and knowledge, and to submit all the meteorological information which has been advanced or collected by others.

The climate of British Guiana varies according to the different situations in which individuals may be placed. The most marked difference occurs in this respect between the alluvial maritime portion and the mountainous or inland regions; again, considerable diversity obtains in the alluvial districts between such portions of land as are fronting the sea, as the coast, and those in

the vicinity of the rivers or creeks. The difference in temperature between the maritime and inland regions is very great. The mean temperature for the year in the former is 80, the maximum 90, the minimum 70, a limited range of 20 degrees; whilst in the interior it has a varying range of 11 or 12 to 35 degrees in a few hours, the maximum temperature being about 95 in the shade, and the minimum about 60 Fahrenheit. But this low temperature is only prevalent in the high mountains, according to Sir R. Schomburgk. The mean of observations at 6 and 9 A.M., 12, 3, and 6 P.M., in 1838, during a stay of three months in Perara, situated in the middle of the savannahs on the banks of the lake Amucu, in lat. 3 deg. 39 min. N., long. 59 deg. 16 min. W., and 600 feet above the level of the sea, gave the following results:

Month.	Barometer. In English inches and decimals.				Thermometer. Fahrenheit's Scale.			
	Highest.	Lowest.	Mean.	Greatest Range.	Highest.	Lowest.	Mean.	Greatest Range.
	″	″	″		°	°	°	°
April . .	29.500	29.286	29.394	.214	93.5	73.	82. 3	20.5
May . . .	29.500	29.292	29.460	.208	91.	73.5	81.	17.5
June . . .	29.496	29.429	29.429	.106	90.	73.5	81.07	16.5

These observations were continued during the months of July and August, at Fort Sao Joaquim de Rio Bianco, in lat. 31 deg. 1 min. N., and long. 60 deg. 3 min. W., and gave the following results:

Month.	Barometer. In English inches and decimals.				Thermometer. Fahrenheit's Scale.			
	Highest.	Lowest.	Mean.	Greatest Range.	Highest.	Lowest.	Mean.	Greatest Range.
	″	″	″		°	°	°	°
July . . .	29.722	29.500	29.6211	.222	86.5	74.8	80.69	11.7
August .	29.730	29.500	29.6178	.230	88.	76.	82.16	12.

TABLE showing the monthly means of Temperature, from Observations in Georgetown, for five years.

MONTHS.	YEARS.						
	1846.	1847.	1848.	1849.	1850.	1851.	1852.
	°	°	°	°	°	°	°
January . . .	79.2	77.8	77.7	78.4	77.4	78.2	78.7
February . . .	79.0	77.4	77.7	78.0	78.2	78.0	78.5
March.	79.8	77.9	78.1	78.6	78.9	78.8	78.3
April	80.6	78.4	79.4	78.5	79.1	79.2	79.8
May.	80.7	78.4	78.6	78.7	78.8	78.8	79.7
June	79.8	78.2	78.4	77.9	79.4	78.1	78.7
July.	79.3	78.8	79.0	77.7	79.5	80.0	79.2
August . . .	79.4	80.1	80.0	79.2	79.8	79.9	80 6
September . .	81.5	80.6	80.3	80.7	82.1	80.9	81 7
October	80.0	80.5	81.4	80.9	82.3	81.0	82.0
November . .	80.3	80.3	80.7	79.6	81.5	80.0	80.8
December. . .	79.0	78.9	78.4	78.5	79.9	79.4	78.2

The reader will at once perceive a difference in the range of temperature between the interior and the town, but if we exclude the more mountainous districts, it will be found that through all the country the temperature may be considered as singularly uniform, and quite compatible with health. The absolute temperature is, moreover, rendered less inconvenient by the prevalence of the sea breeze, which, coming from the east, gives a refreshing coolness to the atmosphere. It is more particularly when deprived of this agreeable visitor that the immense relief it affords to the system is experienced, for without it life would be a torment, and almost insupportable. This sea breeze commences from 8 to 10 A.M, and attaining its maximum about 2 P.M., dies away gradually about sun-set. Very often, indeed, it continues throughout the night; but according to theory, and frequently to practice, a breeze springs up from the land, and proceeds seaward. This night air, which, for the most part, consists in nothing more than a light zephyr, floating irregularly and idly over the land, is considered (and justly) to be unwholesome. No one who has had much

experience in having to go out during the night for most of the months of the year but has felt its damp, cold, sepulchral breath, often charged with the miasm of disease, and too often loaded with effluvia from decomposing animal and vegetable matter, which, in fact, constitute the chief, if not all, of the elements essential to the development of morbific matter in the system.

The following is a monthly sketch of the weather, as observed by myself, for several years:

January.—Uncertain, variable weather; mixture of rain and sunshine; temperature moderate, under 80; winds rather high, and northerly, rendering the air cool; mosquitoes rather numerous; cases of fever mild; generally but little sickness. Fruit in season: mangoes, soursop, oranges, shaddock, limes, and grenadillas. Fish: snook, queriman, mullets, shrimps.

February.—Variable weather, occasional showers; pleasant cool month; temperature under 80; winds strong; health of town moderate; mosquitoes not very troublesome. Fruit in season: mangoes (abundant), limes, oranges, sabbadillas, soursop, mispel.

March.—Boisterous weather, winds high, northerly; air cool, evening chilly and dry; temperature under 80; few mosquitoes, few showers, town healthy, coughs and colds often prevalent. Fruit in season: limes, oranges, pines, sabbadillas, guavas, simitous (commencing). Fish in season: snappers, flounders, snook, &c. Birds: wild ducks, pigeons, parrots.

April.—Quantity of rain increasing, occasional land breezes; temperature under 80; wind easterly, and not so high; more mosquitoes; sickness not very prevalent. Fruit in season: guavas, oranges, sabbadillas, pines.

May.—A gloomy, rainy month, close weather, land breezes, occasional thunder, the most disagreeable time

of the year. Temperature higher, but under 80; absence of usual sea-breeze. Wind southerly, mosquitoes abundant; sickness increasing, rheumatic affections, agues. Daylight till after 6 P.M. Fruit in season; guavas, cherries, oranges, grapes, pines, bell-apple. Fish in season: snappers, crabs, flounders, &c. Insects prevalent: hardbacks, winged ants, and moths. Birds: wild ducks.

June.—Decided rainy weather, estates often under water. Plantation walks injured, very little wind. Temperature higher, about 80; more sickness, inflammations prevalent, agues. Fruit in season: shaddocks, oranges, cherries, papaws, grenadillas. Insects prevalent: hardbacks, winged ants, and moths.

July.—Weather becoming dry, occasional land breezes, air sultry, temperature higher, (mean) under 80; winds easterly, but not high, mosquitoes numerous, thunder; sickness increasing, fevers (bilious and typhoid), coughs and colds, diarrhœas. Fruit in season: shaddocks, oranges, limes, papaws.

August.—A disagreeable month, close mornings, dry, hot weather, temperature, (mean) about 80; frequent thunder, with occasional rain; wind often from south; some mosquitoes. Very sickly, eruptive fevers, sore-throats, rheumatism. Fruit in season: guavas, oranges, limes, figs, papaws, melons, sabbadillas, cherries.

September.—A fine month, strong invigorating sea-breezes, but also occasionally from the land or south. Temperature (mean) 80, or more; air dry, days not so long, nearly dark at 6 P.M. Sickness prevalent, fevers; few mosquitoes. Fruit in season: guavas, limes, oranges, papaws. Birds: plover, curlews, snipe, curri-curris.

October.—An agreeable month, dry, with occasional showers. Temperature (mean) 80, or more; wind high, often from the south; nearly dark at 6 P.M.; few mos-

quitoes, distant thunder and lightning. Fruit in season: guavas, oranges, limes, sabbadillas (ripening), mangoes (commencing).

November.—Weather becoming wet, variable southerly winds, light. Temperature (mean) 80; sickness abated; mosquitoes towards end of month; coughs and colds. Fruit in season: mangoes, oranges, soursop, papaws.

December.—Pleasant weather, air cool. Temperature (mean) under 80; wind easterly, showery; not many mosquitoes; sickness ordinary, affection of bowels, rheumatism, fevers. Fruit in season: mangoes, oranges, limes, sabbadillas, cherries, papaws.

TABLE showing monthly range of Temperature, Georgetown.

MONTHS.	YEARS.				
	1846.	1847.	1848.	1849.	1850.
January	9.2	8.4	8.5	9.3	
February	9.6	8.1	8.8	9.0	
March	9.8	7.3	8.3	8.7	
April	9.3	7.3	9.4	9.1	
May	9.5		9.1	9.6	
June	9.9		10.2	10.4	
July	11.5		11.3	10.8	
August	11.6		12.8	not recorded.	
September	11.7		12.5		
October	12.7		12.3		
November	11.5		10.8		
December	9.5	9.4	10.3		

It will be seen by the examination of these tables how remarkably equal is the temperature, and how limited the daily range, rendering, perhaps, the climate of this country one of the most delightful in the tropics, nay, in the world. The absence of intolerable heats, and of very low temperature, enables the valetudinarian to prolong a delicate life; but whilst such advantages are

afforded to some, it must not be overlooked that there are evils attendant on this almost stagnant temperature. The majority of persons on arriving for the first time within the colony are agreeably surprised to find the heat so little oppressive, and the climate altogether so agreeable. They can scarcely believe themselves in the West Indies, or rather Southern America, and affirm that the heat here is nothing compared to what is felt in the "dog days" of Europe, and the occasional heats of summer; they are often surprised to see the thermometer at 85 degrees of Fahrenheit in the shade, without feeling inconvenience by this abundance of caloric. Advantage of this circumstance has been taken in the construction of the houses, which, with their numerous windows and wing-like verandahs, or galleries, enable the inhabitants to be protected from the sun and rain, whilst they at the same time may be said to live in the open air. According to Stedman, the length of days and nights never vary more in British Guiana than forty minutes. The pressure of the atmosphere has been but imperfectly investigated as yet. The sympiesometers and barometers used for such a purpose have not been sufficiently delicate to be much relied upon. No direct relation has been traced between the state of the weather and the indications of this latter instrument. Thus, on days when the fall of rain has been very great, the column of mercury in the barometer is found exactly the same as it has been in dry weather, or on days when no rain fell. Any change observable in this instrument occurs oftener after the phenomena have actually set in than before; so that as an indicator of approaching change, it may be regarded as almost valueless.

TABLE showing the monthly means of Atmospheric Pressure.

MONTHS.	YEARS.						
	1846.	1847.	1848.	1849.	1850.	1851.	1852.
	In. Dec.	In. Dec.	In. Dec.	In. Dec.	In. Dec.	In. Dec.	In. Dec.
January . . .	29.971	29.952	29.910	29.933	29.932	29.893	29.964
February . . .	30.003	30.009	29.941	29.948	29.948	29.866	29.936
March	29.977	29.983	29.932	29.930	29.951	29.937	29.939
April	29.925	29.995	29.930	29.931	29.963	29.964	29.927
May	29.928	29.977	29.896	29.926	29.922	29.934	29.923
June	29.964	29.975	29.955	29.959	29.930	29.972	29.954
July	29.997	29.958	29.947	29.972	29.936	29.955	29.940
August	29.975	29.931	29.948	29.948	29.962	29.980	29.941
September . .	29.924	29.911	29.913	29.952	30.010	29.935	29.929
October	29.927	29.915	29.887	29.912	29.942	29.893	29.895
November . .	29.902	29.893	29.887	29.875	29.899	29.866	29.876
December . .	29.912	29.911	29.867	29.882	89.936	29.937	29.911

I have been informed by Mr. Sandeman, the intelligent observer of the Georgetown Astronomical and Meteorological Society, that he has been led to believe that the deflections of the magnetic needle indicate very correctly the approach of rain, the oscillations becoming more marked and irregular a little before the fall of rain. It will have been observed that the column of mercury in the barometer rarely reaches to 30 inches, and never descends below $29\frac{1}{2}$, and that its range is remarkably limited. Fortunately for this country we have never been visited by those violent hurricanes and earthquakes which devastate other lands, and which undoubtedly would produce striking changes even in the most unsusceptible instruments. As might, however, have been expected, the barometer has fallen on those occasions when anything like a smart shock of earthquake has happened, as in February, 1843; August, 1844; October, 1844; and September, 1846.

From the observations already made by the Georgetown Astronomical and Meteorological Society, no marked influence on the barometer has been noticed by the action of sun, or moon, or wind, which by some philo-

sophers have been supposed likely to affect the column of mercury. The approach of southerly wind is, however, generally followed by a fall of the barometer. The direction of the wind in British Guiana, owing, perhaps, to its situation in the tropics, is easterly throughout the greater part of the year. Its range is, comparatively speaking, very limited, veering between the points of the compass from E. by N. to E. by S., S.E. to N.E. For days, nay weeks, together, especially in the dry season, the sea-breeze coming from N.E. scarcely exceeds a range of two or three points, and its force is almost as constant for the whole of that period. It blows throughout the day and night for several months in the dry weather, and during this period the weather is generally the most agreeable; but as the sun travels northward the wind becomes lighter, or the sea-breeze is gradually exchanged for land-winds. It will generally be found (and a comparison with the tables deduced from the results of a Whewell's anemometer seem to confirm this) that the greatest velocity which the wind attains is when it has a north-easterly origin. Thus, in the month of March, when, as a general rule, the wind is highest, it will be seen that the direction was, in 1846, E. by N.; in 1847, E. by N.; in 1848, E.N.E.; whilst, on the contrary, when it proceeds from a southerly point, the velocity is at its minimum. The comparative force of the winds throughout the year is as the number 25 to 150 (Dr. Blair says, 34·65 to 313·59); but Mr. Sandeman observes that the land-wind has little or no power. So that the greatest force with which the wind is propelled is, on an average, more than six times as great as it is at other times.

This does not of course apply to squalls or gales, when, indeed, the indications by the anemometer are almost

beyond calculation for a short time; fortunately for the inhabitants of this country, it has never occurred within the memory of man that anything like a hurricane has been felt. This is somewhat remarkable, considering that for two centuries the colonists have lived upon the very confines of that ocean over which the devastating gale has sped with such fatal fury. No one expects a hurricane on a continent or large tract of land; but it is not a little singular that within a few miles so many hurricanes should have swept by, ravaging portions of isolated spots in the Caribbean Sea, and leaving unscathed, as it were by a miracle, the exposed frontiers of our land. Is it possible that the resistance offered by the northern and southern continent of America, with their mountain heights and wooded lands, which are favourable to the formation and existence of clouds, can explain this? whilst over the Caribbean Sea the wind is urged, as it were, into a vacuum, under the influence of some momentous change occurring in the aërial currents, beyond the narrow isthmus which separates it from another mighty ocean.

TABLE showing the direction of the Wind for five years.

MONTHS.	YEARS.				
	1846.	1847.	1848.	1849.	1850.
January	E by N	E by N	E by N	E N E	E by N
February	E N E	E N E	E ½ N	N E by E	E N E
March	E by N	E by N	E by N	E N E	E by N
April	E by N	E	E by N	E by N	E
May	E	E	E by S	E	E by S
June	E by S	E	E by S	E	E S E
July	S E by E	E	E by S	E by S	E S E
August	E by S	E by S	E by S	E by S	E S E
September	E	E S E	E by S	E	E
October	E S E	E by S	E	E	E
November	E by S	E by S	E	E	E
December	E by S	E ½ N	E ½ N	E by N	E

The first six months of the year are the most windy, and the temperature bears some slight relation to the wind, those months being also the coolest, with a few exceptions. Sometimes, especially during the wet season, there is a complete absence of the usual sea-breeze; but, fortunately, never for a long duration. It is very often, however, delayed, and does not set in during very rainy weather until after November, when it generally drives away the rain. The air is still and heavy, the long branches of the palm-trees are scarcely moved, and hang as listless as the vane of the scientific anemometer.

It is not to be supposed, however, that because the average direction of the wind is easterly, it never proceeds from the opposite quarter. This circumstance obtains, on certain days, when what is called the land-wind sets in from the S. or S.W., as has already been noticed, a mass of dark black clouds solemnly accompany its unwelcome presence, and the constitutions of the inhabitants are sensibly affected by its unwholesome influence. It is charged with both negative and positive evils; negative, inasmuch as it comes only as a substitute to the usual easterly current; and positive, as it is charged with the exhalations from the inland districts. Out of 365 days in 1846, the wind appeared in 60; and in 1847, in 70.

The interesting question of the amount of electricity in the atmosphere has likewise been but imperfectly investigated. This is particularly to be regretted, since its relations to animal and vegetable life might be more fully understood. How far this subtle but powerful agent exercises an influence over the mental as well as physical organisation in this country remains undecided; likewise its influence over both the healthy and morbid condition of life. We are also at a loss whether to attribute partly to its agency the singular fecundity of the

vegetable world so remarkable in British Guiana. The reader will perhaps recollect that this age of science has both suggested and practised the possible beneficial results of an accumulation of the electric fluid towards the soil as a stimulus to the growth of plants, and with apparent success. The subject is involved in difficulties and doubts, and it perhaps may be owing rather to the want of instruments capable of appreciating its development, than to the zeal of the scientific, that more is not recorded on the subject of atmospheric electricity. It has been asserted that, during warm weather and in a clear sky, "the electricity of the air increases from sunrise to noon; it remains then stationary for an hour or two, and again diminishes with the declining day and the appearance of dew; it revives again about midnight, and reaches its minimum a little before sunrise."*

I have myself attentively watched the indications of a common gold-leaf electrometer, which was conveniently placed for the facility of observations (possibly the elevation to which the wire was carried, about 80 feet, was not sufficiently high), and noted the divergence of the thin films of gold-leaf on a hot, dry day, when scarcely a cloud could be seen to vary the blue tint of the sky, and invariably remarked that on such bright days the indications of the electrometer were more frequent, which, indeed, might have been expected. It sometimes happened that, upon running to see the effect produced on it by a smart thunder-storm, it was found that the gold-leaf was completely blown away or crumpled, and upon one occasion the glass envelope which isolated it was broken; but on other similar occasions no such consequences followed, so that observers were at a loss when to expect any decided indication of its presence.

* Schomburgk's History of Barbadoes, p. 16.

The lightning in this country during severe thunder-storms is very vivid, and is frequently visible at almost every part of the horizon. It is rarely forked, or known to do much injury. The flashes are sometimes seen to burst from S.E. and N.E., and light up for a moment the whole sky. The thunder is in proportion grand and terrible. It is here the common opinion that some of our palms, such as the cabbage-tree (*Areca oleracea*), which abound in town and country, are admirable conductors of electricity, and this possibly may account for the little injury inflicted on man or buildings by this terrible power.* It is of frequent recurrence, more especially in the dry weather, that towards sunset faint flashes of lightning are visible towards the S. and S.E. and W., but never to my knowledge towards the N. These coruscations, as they may be termed, are never followed by thunder audible to us. This playful lightning, as it is called, commences about 4 P.M., and is sometimes prolonged long after sunset. It is sometimes, however, very vivid. Who will explain this beautiful phenomenon? Are these flitting flames the reflected images of the flash of the thunder-cloud in the far and mountainous interior?

Luminous bodies, such as meteors, falling stars, &c., are of frequent occurrence; there is rarely a night but such inflammatory objects attract attention, now resembling a star hurled down to earth, now a train of fantastic lights wandering through the sky.

Thunder is rarely heard in Guiana during those months which constitute winter in Europe.

Earthquakes are more or less frequent in this country. In 1766 there occurred a very severe earthquake in British Guiana, which was felt more particularly in

* It has been remarked, that if an electric eel is stirred by a person holding a common piece of wood, no sensation is felt, but if the bark of the cabbage-tree is used a smart shock is experienced.

Essequebo. No injury has, however, ever resulted from a severe "Tremblement de Terre," as the French significantly express it; of late the shocks (slight ones) have become more common, and scarcely a year elapses without some slight motion being experienced. They are of very short duration, but produce the most awful sensations to those not accustomed to them. The one most severely felt was that which occurred on Friday the 30th of August, 1844. A terrible storm of thunder and lightning had commenced at 7 P.M. the night before, accompanied with torrents of rain, and the alarmed inhabitants of the city and neighbourhood had scarcely sank into repose when, at about half-past 3 A.M., a loud rumbling sound awoke in an instant every individual. The very animals were scared—their several noises, more particularly the howling of the dogs, added to the general terror. Scarcely had the unearthly rumbling sound described reached its height when a violent shaking of the earth took place for nearly a minute—the whole houses and buildings seemed rocked to and fro; an awful pause then succeeded, the rumbling sound was heard dying away, when a second shock more dreadful than the first occurred, lasting a little longer, and threatening all and everything with instant death. But there was a merciful Providence who, guiding the storm and ruling the earthquake, tempered mercy with majesty, and thanks to Him all were spared. There was not one life lost, but most of the inhabitants had rushed from their beds and houses, and were on the point of flying they knew not whither, when the shocks ceased. No tidings ever reached these shores of an injury inflicted on other lands. How very different to the earthquake which was felt so severely in this country—destroying the town of Point à Pitre, in Guadaloupe, and many of its wretched inhabitants —on the memorable morning of the 8th of February, 1843. It was noticed here about 11 A.M. of that day, and little

did the inhabitants of this colony deem that, at the very moment when they were attending to its ominous phenomena, that so many of their fellow-creatures were suffering from its violence. The climate of British Guiana is essentially humid. The ratio of humidity for the year is from 700 degs. to 800 degs., saturation being 1000 degs. As the night is generally from 8 degs. to 10 degs. cooler than the day, the moisture contained in the atmosphere, when the sky is clear and favourable to its development, is deposited in the form of dew, which is very abundant during the nights of the dry season, when the sky is usually free from clouds, which by radiation would keep up the temperature of the earth, so as to interfere with the deposition of dew so necessary to vegetation in the absence of rains. On looking out of a window, a little before sunrise, the stranger is often surprised to see the landscape covered with a kind of mist like to the hoar frost of winter in Europe. The reason of this is plain:—The greatest degree of cold obtains about 5 to 6 A.M., when nearly all the moisture of the atmosphere is deposited as dew; by degrees, as the temperature increases, this is again converted into vapour, and is gradually seen to rise at the approach of the sun, like a withdrawn curtain, or the dissolving views of art.

The amount of evaporation is considerably modified by this abundant moisture; were it not for this, the temperature would be much more variable, and the system subject to many diseases from which it is now exempt. The force of evaporation measured by a Mason's hygrometer between the dry and wet bulb varies as much as 10 degs. on some days. The quantity of vapour in the atmosphere is of course modified by the amount of temperature, the state of the wind, and other circumstances.

Evaporation goes on slowly in calm weather, becomes greater as the wind increases, and with a strong breeze

obtains its maximum. It has been calculated that the mean annual evaporation of the whole globe is about 34 inches, which would give the enormous amount of 91,751 cubic miles of water annually evaporated. This large proportion would be immediately indicated by the barometer, which would be raised nearly 3 inches, were it not that a large amount of this is precipitated as rain in various parts of the world.

In this country the annual evaporation amounts to about 20* inches; and if we include the dew, about 25 inches. The ratio of humidity corresponds with the amount of rain, being greatest in wet weather. On some days of heavy rain it has approached almost to saturation. The vapours, the result of evaporation, ascend upwards by their specific lightness, and, besides their utility, contribute to the beauty of nature, by forming strata of visible vapours, known as clouds, which, at varying heights above the earth, generally from one to three miles, become subject to other and new laws, whilst to the eye they appear to be floating idly over the earth. As is well known, the appearance of clouds is indicative of the weather, nay, of the climate, for, as a general rule, the warmer the air the less clouded and less charged with visible vapours is the atmosphere, although the capacity for humidity increases in arithmetical progression.

But after all, these vapours or clouds are nothing more than moisture dissolved, or held in solution by the air, and whatever tends to alter the condition of the atmosphere, such as its temperature, its density, its electrical state, &c., has also the effect of decomposing, as it were, the mixture, and liberating the particles of vapour so that they may unite, and causes them to be precipitated to the earth in the form of rain, hail, or snow, according to circumstances.

* Deduced from tables of evaporometer kept in 1843 and 1844.

TABLE showing monthly means of Elasticity of Vapour.

MONTHS.	YEARS.						
	1846.	1847.	1848.	1849.	1850.	1851.	1852.
January . . .	.790	.800	.805	.795	.807	.790	.799
February . . .	.743	.767	.777	.775	.806	.785	.790
March	.777	.796	.794	.815	.817	.793	.799
April	.829	.808	.808	.818	.848	.849	.825
May	.887	.832	.857	.847	.876	.875	.864
June	.889	.837	.845	.854	.874	.850	.868
July	.863	.831	.830	.836	.873	.854	.860
August	.863	.840	.831	.860	.874	.871	.873
September . .	.856	.826	.841	.844	.849	.861	.854
October	.863	.811	.844	.847	.863	.847	.847
November . .	.857	.832	.847	.861	.851	.861	.861
December . . .	.854	.811	.842	.830	.839	.830	.852

The quantity of rain which falls during the year has been computed, on an average, to be greater in countries near to the equator and to decrease gradually towards the poles. But there are numerous exceptions. Thus in England, where the mean annual fall of rain has been estimated at 35 inches, we find that in the vicinity of Cumberland and Westmoreland the quantity of rain that falls annually is above 50 inches, whilst in London it averages little more than 20 inches. Again, in the great deserts of Africa, rain is hardly ever known to fall; but in these and other places similarly situated, the deposit of dew is greater, and sufficiently answers the purpose of nature.

It is generally considered, however, that the number of days on which rain falls is smallest at the equator and greatest in proportion to the distance from it.

In Barbadoes, out of 487 days (according to Sir R. Schomburgk) there were 235 days without rain, or nearly one-half. The quantity which fell during that period amounted to 84·65 inches. In British Guiana, out of 1063 days (according to meteorological tables)

there were 502 days without rain, little less than half, the total depth of rain being 252 inches. The annual fall in the cultivated districts of British Guiana may be estimated at from 80 to 90 inches—rarely falling below 80, but frequently rising above 90, as will be seen by a reference to the tables. The two wettest months of the year are May and June, during which period the fall of rain amounts to nearly 30 inches. The showers during these months are very heavy. I have known frequently as much as from 2 to 6 inches of rain fall within 24 hours, and as much as 5 inches during one shower, lasting several hours. From 20th to 24th March, 1850, as much as 10 inches fell in four days.

From a clever analysis of the Georgetown observatory rain tables, in relation to the changes of the moon, by George R. Bonyun, M.D., president of the Astronomical and Meteorological Society, read before the society on the 30th June, 1846, the following conclusions were drawn by that gentleman:

1st. There is more rain during decreasing moon than during increasing, the excess being 27·76 inches.

2nd. There is not more rain on any day of change than on any other intermediate days, nor is change of weather more frequent on those days.

3rd. The largest quantity of rain is on the day after full and the day before last quarter; the smallest on the day of second octant and the day of first quarter.

4th. The quantity of rain on the days of new moon, full, third octant, last quarter, and last octant, is nearly equal, and much greater than on the days of first octant, first quarter, and second octant, the two last giving a comparatively very small quantity of rain.

5th. The lunar months being divided into groups of about 88 hours, the largest quantity of rain is on full moon group, 44·39; third octant, 36·00; last quarter,

31·56; new moon, 31·22; and the least on first octant, 29·67; last octant, 27·17; first quarter, 26·70; and second octant, 25·61.

6th. The lunar month being divided into four periods of 176 hours each, the largest quantity of rain is during full moon period; the new and last quarters are equal; the first quarter is the least.

7th. The conclusions 4th, 5th, and 6th are only applicable to the whole period; for this period being divided into eight groups, the results are found to apply only to four of them.

Increasing Moon.							Decreasing Moon.						
No. of Days.	Heavy Rains.	Light Rains.	Total.	Depth of Heavy Rains.	Depth of Light Rains.	Total.	No. of Days.	Heavy Rains.	Light Rains.	Total.	Depth of Heavy Rains.	Depth of Light Rains.	Total.
535	44	240	284	65.04	48.16	113.20	528	68	209	277	100.14	38.98	139.12

The results of this analysis are, however, opposed to similar calculations made in other countries, where it has generally been found that there is more rain during the increasing than the decreasing moon; which fact obtains also in Barbadoes, according to Sir R. Schomburgk.

The effect of the heavy rains on vegetation is surprising; for, although the foliage of plants is evergreen throughout the year, and their growth constant, still there is a marked effect produced on them by the fall of showers. Their leaves assume a fresher look, the functions of respiration, digestion, and circulation are invigorated; renewed strength seems added to their already prolific power. Each of the two wet seasons may be re-

garded as the springs of temperate climates, when the sap is aroused to a more vigorous flow. Nor is the season neglected by man; owing to the want of native springs near to the inhabited districts, it has ever been the custom from time immemorial in this country to collect the rain-water which is carried off the tops of the houses by spouts into large reservoirs of wood, or iron, where it is allowed to settle, and drawn off as occasion requires. This soft rain-water forms the most refreshing beverage, and in no country of the world that I have ever visited is the water superior to this.

The rainy season probably depends on the change in the sun's position as it approaches the tropics; for in one of the wettest months of the year the sun arrives within 10 or 12 degrees of the tropic of Cancer, and gradually retrogrades towards the equator until the commencement of August, when the rains cease; but again begin to fall about November, when the sun approaches the tropic of Capricorn. The second fall, or short wet season, never equals the first, probably because the situation of Guiana is more distant from the southern than the northern tropic.

With respect to the division of the year into seasons, it has been long observed that there are four, two wet and two dry; although all persons agree as to this fact, they are not equally unanimous in defining the exact periods for each, which makes it at once apparent that there is some uncertainty or irregularity in their setting in. Many of the old colonists assert that there was formerly much more regularity in this respect to what there is at present, but they can furnish no data in support of their belief.

Generally speaking, the short wet season commences about the latter end of November, and lasts about two months, or to some time in January. The long wet

season lasts from the latter end of April to the month of July or August, about four months—the dry weather occurring in the other months. So that the year is marked by two seasons of six months' duration each, these periods being again subdivided into two terms of two and four months. Providence, in infinite wisdom, allows the long dry season to be followed by about two months of rain, and a similar short period of dry weather to take place ere the prolific showers of the long wet season set in. Torrents of water are then poured out over the earth, and are greedily absorbed. The creeks, the rivulets, the rivers swell and overflow their banks, especially at spring tides, when miles of land become converted into temporary lakes, their bosoms bedecked with bouquets formed of the waving tops of trees, and shrubs with their lively flowers. With such abundant moisture the giant of vegetation seems refreshed, and performs wonders incredible, save to eye-witnesses. The miasm of disease and infection is also begotten, waiting but for the genial sun to call forth that unseen agent so inimical to health.

Now it is that the sea-breeze of the dry season is so often wanting; a land wind sets in from the west or south-west, stalking in gloomy majesty over the land. Previous to its approach there is an awful stillness of the air, a close suffocating condition of the atmosphere. The summits of the lofty trees are still, and seem hushed as if in expectation of some coming evil. Towards the west and south-west banks of dark and gloomy clouds lie piled up in oppressive solemnity, gradually rising higher and higher in the sky, until their dark and aspiring forms meet the sun and obscure his brightness, casting their frowning shadows over the earth; a warm, unearthly air begins to float slowly and dismally from this dark mass, trailing its pestilential length over man

and beast; often the low thunder and pale lightning betray the powerful agent by which such clouds are accompanied, and occasionally burst forth in all the grandeur and solemnity of a fierce thunderstorm.

For many days these portentous clouds arise much about the same hour from the low horizon, and increasing their ascent in the sky more and more for several successive days, are either driven backwards by a favourable sea-breeze, or, disseminating their obscurity, end in the thunder-clap or deluge of rain.

What a contrast to the bright sky, without even a white cloud to vary the blue, that marks the dry season. The air clear and lucid, so that objects far off seem near even to contact—beautiful and deceptive as the Italian twilight; the waters sparkling with the fanciful sunbeams, and the green livery of nature rendered more gay by the golden light. It is true that the earth gapes with the protracted heat; it is true that endemic fever is sometimes liberated from its dark bed, but neither vegetation nor man sink under the enervating temperature so long as ordinary precautions are adopted. The varied tribes of trees and shrubs change not their hues, the old leaf droops not until a younger and more vigorous one has supplied its place. The brilliancy of a tropical day is only rivalled by the loveliness of its moonlight night, when a chaste but strong light lights up the smallest objects to view. The stars shine out in all their brightness whenever the moon wanes.

Orion with his golden belt is distinctly traced. The twinkling Pleiades revolve in beautiful brightness; the southern cross is seen high in the air, luminous and grand, while the evening star sparkles like a gem in the diadem of heaven. In the interior of Guiana the purity of the air is such that in the dry season the stars appear

like brilliants in the deep azure sky at night, and we not unfrequently perceive planets in the daytime. "I have often," says Dr. Hancock, "observed the planets Jupiter and Venus where the sun was 20 or 30 degrees above the horizon; in which case Venus appears, through a telescope, precisely like the moon in her first quarter. At the same time, the splendour of the moon and the zodiacal light contribute to make the nights most pleasing, and to throw a charm on every object." Meteors like to falling stars shoot down towards earth and then suddenly expire, like runaways from heaven.

The silver tops of the palm-trees still rustle in the air, myriads of magic fireflies hold their joyous jubilee, dazzling the air with perplexing brightness. The unwelcome mosquito and sandfly are not less active, the former buzzing about until it procures a victim, the latter unseen till felt; but it is chiefly in the wet season, or in rainy weather, that both fireflies and mosquitoes abound.

Comets have occasionally been recorded as visible here, the most remarkable of which was witnessed not many years ago. It made its first appearance on the 26th of December, 1842, about 7 P.M., and was situated about 5 deg. above the south-west horizon. The bearings were estimated about 40 deg. south declination; it remained visible until about the 17th of January, 1843.

By the observations of Mr. Donald and other gentlemen its right ascension and declination were calculated as under:

	Right Ascension.	Declension South.
	h. m.	° ′
January 8th	22. 10	44. 00
„ 10th	22. 32	44. 05
„ 12th	23. 05	44. 15
„ 15th	23. 30	44. 30

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TABLE showing monthly fall of Rain during 7 years, commencing January, 1846.

MONTHS.	YEARS.						
	1846.	1847.	1848.	1849.	1850.	1851.	1852.
January . . .	2.069	9.289	6.652	5.601	15.165	3.900	6.075
February . : .	0.870	3.229	6.909	7.441	3.863	6.065	8.414
March	2.065	6.149	7.681	12.589	14.597	8.083	8.762
April	5.931	11.477	7.236	7.548	5.945	16.154	5.277
May	14.083	12.876	20.283	17.943	15.596	11.231	16.501
June	14.919	14.286	11.450	20.440	7.939	19.824	11.669
July	13.275	10.207	5.553	20.382	9.883	8.695	8.831
August	8.805	3.819	2.545	10.801	10.412	7.520	10.107
September . .	0.610	1.118	6.421	1.164	0.635	2.900	1.175
October . . .	5.884	3.290	0.603	3.550	1.865	2.710	0.520
November . .	5.574	7.299	3.488	10.359	5.153	12.070	5.025
December . .	11.226	10.291	18.819	14.401	6.311	3.656	12.185
	83.311	102.330	97.640	142.219	97.764	101.838	94.541

TABLE showing Ratio of Humidity.

MONTHS.	YEARS.						
	1846.	1847.	1848.	1849.	1850.	1851.	1852.
January . . .	727	778	787	757	812	737	747
February . . .	684	756	757	752	770	760	753
March	694	780	771	776	766	742	770
April	738	786	743	783	768	794	753
May	794	798	827	802	821	821	781
June	811	806	805	828	790	819	807
July	785	778	758	812	775	753	782
August	770	743	726	783	774	766	749
September . .	719	710	735	724	692	740	706
October	755	702	716	725	699	733	698
November. . .	759	738	746	786	724	766	751
December. . .	814	772	811	790	756	747	812

Having thus gone over some of the principal features indicative of the climate of British Guiana, it remains shortly to consider the influence they have on the human body, and to notice some of the principal disorders to which they give rise. To the stranger arriving from a temperate climate the augmented temperature is sensibly felt, and a stimulus is temporarily given to the organs of circulation, and to the skin, which latter, as indicated by

the state of unusual activity of the capillary vessels, is thrown into a state of morbid activity, a corresponding stimulus is given to the exhalant vessels, and the sensible perspiration is materially increased in quantity, inducing considerable thirst. The function of the lungs, or inspiration, becomes exalted, and more respirations are taken during a minute than was usual before; but this state does not last. The nervous system soon becomes exhausted by the general tendency to increased activity throughout the whole body, and lassitude and fatigue are soon experienced. The appetite for food, although at first increased, is more or less impaired, and the digestion is not so perfect as before; thirst, and the inclination to drink, are early manifested, and a particular craving for sour or acidulated fruits or beverages is manifested. The skin, already in a state of activity, becomes irritated by the bites of mosquitoes and other insects, and whether from the quality of the blood, the active state of the absorbents, or other causes, in most constitutions a local inflammation follows, the part bitten becomes red, swollen, hot, and painful, and if further irritated by scratching or more bites, has a tendency to ulcerate; the feet and hands, indeed the whole body, assumes a temporary increase of bulk, which is singular, considering the augmented free perspiration; this does not continue very long, however, and most young persons become thinner after a short residence here.

From the increased temperature, it is no wonder that the individual tries to relieve himself by dressing as lightly as possible, by exposing himself to currents of cool air, and by drinking largely; often, indeed, making use of spirituous or vinous drinks to stimulate the flagging nervous energy. It would surely be needless to explain the imprudence of these proceedings. It may appear strange to say that a person can dress too lightly in a

climate where the natives, creoles and Africans, are accustomed to go about in a state almost of nudity without inconvenience, but it should be remembered that previous habits render the European obnoxious to any such marked change in his clothing, whilst custom as a second nature has innured the aboriginal to his scanty apparel. On the other hand, it is not intended to recommend the utility or prudence of wearing only woollen clothes or similar warm apparel; very often the vessels of the skin try to relieve themselves of their excited or congested state by developing eruptions, or, rather, the blood relieves itself in this way of any morbid element. Hence the stranger is sometimes annoyed at the appearance of boils, prickly heat, nettle-rash, or other cutaneous disorder. With caution and moderate living, frequent ablutions and cleanliness, and ordinary prudence, it is surprising how soon the system accommodates itself to the change during the process of acclimatisation. Very often in some individuals scarcely any of the above symptoms are experienced, and they settle down with as much comfort in this part of the new world as they enjoyed elsewhere. It is not a little remarkable that for the first few months, except during the presence of epidemics, it is rare for any individual to suffer from the effects of fever or ague, or, indeed, any other important disorder; whilst to most persons who practice cleanliness, temperance, and exercise, this country and climate may be considered as favourable as many others. It is not intended here to recommend a total abstinence from wine or malt. This, if not so erroneous as an improper abuse of stimulant, has also its evils. As the mind requires the stimulus of occupation, so does the body benefit by the moderate use of stimulants. A few glasses of wine, or one or two of malt, I can never believe to be injurious to health in this or any other climate. It renews to a

proper degree of activity the important function of circulation, digestion, and nutrition. Indeed, good living appears essential to good health, and there is an intolerance of unsubstantial articles of food, such as vegetables, starches, grain, &c. Whilst, however, the diminution of nervous energy alluded to has its inconveniences, it has also some advantages, one of the most marked of which is the general absence of severe constitutional symptoms attendant on some severe diseases, which elsewhere render the life of patients miserable. It would be going too far to say that there is a general absence of pain, but certainly it is remarkable that the most painful diseases to which human nature is subject are unknown here, or are greatly modified.

Neuralgic affections are rare, acute inflammatory diseases uncommon, and it will hardly be credited that persons are often met who have laboured for years under the most aggravated forms of cancer, diseases of the bones, deep and large ulcers, eruptions of the skin, without any of that marked suffering which in other countries characterises these distressing ailments. I have myself seen cases where extensive diseases of joints, of the eyes, of the mammæ, of the uterus, of bursæ, &c., have slowly progressed without the patient losing materially either their appetites, their flesh, or their natural rest.

Such absence of constitutional symptoms in similar diseases in Great Britain would be regarded as something approaching to the miraculous, whilst here it is the rule, and not the exception.

Again, parturition in the human female is unattended in this country with any of that severe suffering and delay which is so general in England and other countries. In ordinary cases, a few hours, generally from two to four, complete the delivery, with moderate pain.

Among the natives and lower orders, the exemption from suffering is still more remarkable. I have repeatedly seen cases where labour was safely accomplished in one hour, even in white females. Among the coloured and black population, I have known instances where the patient has bathed and walked about the day after confinement, without any evil consequences.

The foregoing remarks applying chiefly to new-comers; it may not be out of place to state here some of the peculiarities which attach to individuals long resident in this climate, or native to it. If we consider the skin, the stranger will be at once struck with the difference between its appearance here and in Europe. There is a general absence of florid complexion; the capillary vessels become languid from a diminution in the force of the circulation, the blood has a tendency to be determined from the surface to the internal parts, and hence a sallow look and internal congestion are apt to ensue; the value of exercise, therefore, in preserving health becomes evident, which, as is well known, disperses the blood through all parts of the body in a more equable manner. Where, however, persons are much exposed to the sun and weather, the complexion becomes tanned, bronzed, or freckled, according to circumstances, and something depends too on the habits of the individual. If very temperate, and a water drinker, the complexion keeps pale and the body thin; if inclined to wine and spirits, the face becomes reddish and mottled, and, in extreme cases, bloated, with a tendency to stoutness and large abdomen; if a lover of malt, a general increase of bulk is noticed, and the face is congested and often puffed.

In old residents there is a singular craving and partiality for salt provisions, and whatever food is taken

requires to be highly seasoned in order to suit their tastes.

Most Europeans, both male and female, become stout as age increases up to 55 or 60, when this tendency abates. It is seldom noticed that Europeans become very corpulent, and still more rare is it to see a corpulent black or creole man, although many of the women are of tolerable dimensions.

With a diminished circulation, the general power of life seems weakened, and the vigour of the intelligence and bodily energy diminished, unless kept active by mental and active employment. The disposition to exertion, both of body and mind, becomes less; languor of the brain, as of the heart, are followed by their definite results; hence, when not resisted and overcome, the system becomes relaxed, and the individual appears listless, indolent, and apathetic, of which the true type is the aboriginal native of the country, "The Buck."

In the European and Portuguese this is, perhaps, less observable than in those of other nations, as the African and the coolie; but possibly their previous habits and education may be considered the cause of this, rather than any physiological peculiarity. The habit of body once conformed to this condition, it becomes obnoxious to change; hence many old inhabitants, who retire to Europe, find that they have not such good health as in the tropics, and frequently return hither.

It cannot be denied that intermittent fever in some form or other prevails to a very great extent; but, as before noticed, new comers are not very subject to its attacks, except immigrants, and those who work in the field. It is only when the system has been long exposed to the contagion of miasm, or enervated by long residence, or otherwise debilitated and predisposed, that the

attack of this disorder is so distressing, and its sequlæ so injurious. It would be out of place to consider here its nature and treatment; but a few general remarks will, perhaps, be permitted.

Fever and ague are not dangerous; and if promptly and judiciously treated, rarely fatal. The blood becomes altered and impoverished during its progress, congestion of internal organs, especially the spleen and liver, are apt to take place; the surface becomes pale and sallow, the appetite fails, emaciation follows, and the whole constitution is affected. The body may be said to be poisoned, not by any deleterious agent introduced with the food, but by a noxious principle mixed up with the atmosphere inhaled. This circumstance renders it difficult of detection; but the elements being known that contribute to its formation, it often rests with men to be able to prevent its development by the well-known measures of good drainage, &c.

We cannot lessen the sun's heat; we cannot diminish the volume of moisture; but we can prevent the accumulation of the one to bear upon the superabundance of the other; indeed, it is a matter of notoriety, that within the memory of man, and in proportion to the land being drained, cultivated, and kept clean, so has the prevalence of this opprobrium of the colony been diminished. Again, it is more particularly in some parts of the country, as on the rivers, the creeks, and other very marshy spots, that the disease is so common. The coasts, the mouths of the rivers, the inland and high districts, are more or less free from this malady.

Under the head of remittent and bilious fevers may be classed the greater number of febrile diseases which are met with in this colony, whether endemic or epidemic. Leaving for the present out of consideration the yellow fever and eruptive fevers, I will take a slight notice of

the others. Most diseases of the colony are attended with more or less feverishness; hence, when the stomach or any other internal organ is out of order, some morbid heat of skin is often noticed. These remittent fevers, or febriculæ, constitute the mass of diseases in the cultivated districts, and are resolved by the most simple treatment; and so well known is this to the greater number of colonists, that they rarely call in the services of a medical practitioner, and are content to treat themselves, often with success; a person considers himself well, and actually feels so, who, perhaps, yesterday, was labouring under feverishness; and often, like in the days of immunity from paroxysms of fever and ague, the system seems in no way impaired by its occurrence. It is to this class of fevers that new comers are frequently liable; but they can scarcely be said to be peculiar to this country, or more difficult of treatment and cure than elsewhere. They are especially induced by injudicious or improper diet, or irregular living.

Continued fevers are rare in British Guiana, and are principally met with in children, when the disease is kept up by local irritation or obstruction of the bowels. They are not usually regarded as dangerous, but require more careful treatment and judicious management.

As might be supposed, this climate has proved singularly beneficial to persons labouring under, or predisposed to, pulmonary complaints in general. The bland, warm, and moist atmosphere is particularly adapted to cases of threatened or incipient phthisis (consumption), and even in the more advanced form of the disease it is remarkable how adapted this country is to sustain, if not to prolong, life, under circumstances which elsewhere would rapidly hurry to a fatal termination. Instances are numerous, to the experience of even non-professional persons, of parties who had been ordered away from

Great Britain in consequence of the dangerous symptom of chest disease, when a longer residence in that climate would have carried off the patient, and who, wisely directing their course to this land, have lived, and for years, in comfort and comparative security; proving, beyond doubt, the superior advantages to be derived by individuals affected with similar complaints coming here to reside. It is not intended by these remarks to assert that a cure to the complaint is effected by the change, nor to lead persons to believe that death does not take place from phthisis even in the natives of British Guiana; but merely to point out to the reader that a residence in this climate tends to dissipate the incipient symptom of consumption—that scourge of Europe, to arrest the progress of the malady in its middle or more advanced stage, and to retard that organic destruction which threatens to carry off the patient. Certainly many of these effects are due to climate alone; and we may safely venture to assert, that in no part of the world have instances of a wonderful prolongation of life of phthisical persons taken place than are within the experience of the colonists of British Guiana. It has been lately broached, as an opinion, that the prevalence of fever and ague is antagonistic to the development of phthisis; and certainly the testimony of the medical men of this country must strengthen such a belief. Whether this depends upon the positive advantages of a malarious atmosphere, or a negative superiority in the absence of certain elements favourable to the development of phthisis, remains to be proved. Phthisis is a disease which rarely originates in an individual born and reared in British Guiana. By a reference to the hospital reports, it will be found that the majority of persons admitted to that institution on account of this disease were born out of the colony; and

even of those born in the colony, many will be found to have contracted the disease in other climates.

It has been denied by Dr. Hancock that such a disease as tubercular phthisis was ever generated on the coasts of Guiana. "The climate (the doctor adds), I may say, is not only prophylactic, but curative of this disorder (pulmonary consumption), of which I have known various instances." Again he adds, "I have long been of opinion that the exemption from phthisis on the coast of Guiana is partly owing to the gaseous emanations from the soil; but I have reason to believe that the main cause is referable to the free perspiration experienced there, together with the almost total absence of those chilling blasts which are common in other tropical regions."*

As regards immunity from phthisis, there is therefore a prominent advantage possessed by the inhabitants of this country, especially when we reflect that in Great Britain about one-fifth of the whole annual mortality is ascribable to that fatal malady alone. It would, indeed, be strange if this country, deprived of so severe an affliction, had not other maladies of common occurrence, but which are not of a character sufficiently grave to stamp with marked insalubrity this valuable colonial possession. Whilst, however, there is a marked absence of fatal tubercular disease, it must be understood that some other pulmonary affections are commonly met with, such as pneumonia, pleurisy, bronchitis, and asthma; of the former, or inflammatory diseases, it is not difficult to account why they should be met with, as the exposure to the weather, and indifference to its changes among the lower orders, is perhaps greater here than in most other coun-

* Schomburgk, however, in his travels in the interior, occasionally met with fatal instances of this malady among the Bucks.

tries; but such inflammations are seldom of a very acute or sthenic form, and if early and promptly treated, are rarely fatal; but such is the insidious mildness with which many of these disorders run on, that the patient, too often slighting the symptoms, puts off any application to medical advice until the breathing is materially affected, or the danger urgent. Such inflammations, and, indeed, inflammations in this country in general, are quite different in character to those met with in more temperate regions. They have not the tendency to terminate in adhesion, but rather proceed to suppuration and effusion. This peculiarity may probably be accounted for by the absence in the blood of that fibrinous or plastic substance which marks the quality of the sanguineous fluid elsewhere. Among the well-clothed and upper classes these diseases are comparatively rare, and are seldom met with in children except as sequlæ to other diseases. It must be here also remarked, that the creole labourers are, in general, not so liable to its attacks as the immigrants from other nations, as India, Africa, Madeira, Europe.

Slight coughs and colds are not uncommon, and are generally met with in the dry weather, owing, perhaps, to the greater degree of evaporation going on. Considering the free transpiration, the light clothing worn, the exposure to draught and changes of weather, and the liability to suppression of perspiration, it is wonderful that such affections are not more frequent. It is often remarked by persons, that going out into the sun causes them to sneeze, as if they were about to catch cold; this is, after all, nothing more than one of those reflex actions which are so beautifully illustrated by the doctrines of Dr. Marshall Hall. The sun's rays in this instance stimulate the nervous filaments of the exposed skin, and by their communication with the nervous centres cause a counter action of other nerves, which induce the act of

Miaha, an Amazula woman.

The last of her tribe.

London, Longman & Cº

the sudden or violent act of expiration called sneezing. It would be needless to enter more into the discussion of other affections of the lungs, which are, however, comparatively few in British Guiana. Enough, I hope, has been said to convince persons that, as regards chest diseases, a residence in this country is calculated to lessen rather than to originate or aggravate disorders of this nature.

Judging *à priori*, one would be inclined to suppose that few gouty or rheumatic affections would be met with here; but this is not so much the case as might have been expected. Acute rheumatism, or the worst forms of gout, are almost unknown; but flying pains in the joints, and rheumatic affections of the muscles, bones, and tendons are tolerably common. They are usually caused by suppressed perspiration, or exposure to damp or draughts of air. Difficult as these cases are of cure sometimes, it is not a little remarkable that persons who have arrived from Europe afflicted with this disease undergo a spontaneous recovery. From the first week of landing they experience relief to their aching pains, the effusion into joints becomes gradually absorbed, and the stiffness of limbs is by degrees overcome, enabling many persons who were before bedridden for months, nay years, to walk after the lapse of some time. Moreover, the injurious effects of rheumatism, which in Europe are known to affect the heart or its membranes, have seldom or never been remarked by practitioners in this country, as might, perhaps, have been supposed, from the majority of cases being instances of chronic rheumatism rather than acute. Some forms of rheumatism, tolerably common and not amenable to treatment, are, however, benefited by a short absence from the colony to places where sea-bathing, &c., are procurable.

Ulcers form one of the most numerous, interesting, and important subjects for a medical inquiry, but I must pass over any consideration of their varieties, and refer only to a general description of them. They seem endemic to the soil; they are and have been the bane of the dirty, the lazy, and the inattentive; for it is certain that cleanliness and common attention exempt individuals from their attacks. They are occasioned by the bites of insects, such as the mosquito, the sandfly, the chigo, the ant, &c. The skin is broken by the puncture made by any of these small creatures, local irritation and inflammation follow, the wound is enlarged by scratching, or allowed to fill with dirt, which increases the irritation; the part swells, congestion of the capillary follows, more blood is directed to the spot, but instead of repairing the evil which it was intended to do, increases it by stagnating and pressing on the nerves, giving rise to pain; purulent matter forms, and increases from the size of a pea upwards, till it reaches into the skin which it bursts, and gives rise to a larger sore, which goes through the ordinary ulcerative course, until, if not checked, it destroys the whole part affected, and often the life of the individual. Of course, such ulcers do not affect the better classes, or those who take care of themselves. The native Indians, although particularly exposed to their influence, are rarely known to suffer from sores. The cleanly creole labourers also are exempt, but the heedless and uncleanly immigrants of all nations have been the principal victims of this disease, and of their own imprudence.

With a knowledge of the climate and its effects in the constitution before us, it is not difficult to understand why there should be a tendency to dropsical effusions throughout the body. The free perspiration is likely to be checked by the cool currents of air into which persons

thrust themselves. The light porous clothing keeps up a rapid evaporation, the want of exercise, or free ablution, does not sufficiently relax the pores of the skin to give vent to the increase of fluids imbibed, the free use of stimulating drinks irritates and inflames such organs as the liver, kidneys, and heart, the functions of the circulation being impaired, or the quality of the blood altered, or both, cause the gradual deposition of watery fluid (serum) to form in those parts of the body adapted to receive it. It is either infiltrated underneath the skin to the more dependent parts of the body, as the feet, legs, &c., or accumulates in the chest or abdomen; its consequences are, unhappily, too well known in most countries to require further explanation.

Biliary disorders are in general associated with warm latitudes, and persons going to such places are usually warned to take care of their livers. In India there can be no doubt of the prevalence of the most serious diseases of that important organ; but it will not, I think, be denied that in British Guiana there is a remarkable exemption from such diseases, if we may take professional experience and the evidence of the published Hospital Tables for a number of years as a criterion. Slight derangements of function are, indeed, frequently noticed; an overflow or deficiency of bile occasionally complicates another disorder, or constitutes a separate disease; but, as a general rule, it will be found correct that comparatively few persons suffer from those formidable diseases which are incident to that organ elsewhere. It is only where hereditary disposition, dissipated habits, or irregular living obtain, that it is at all met with; and I am inclined to consider that this climate is opposed to the prevalence of severe and fatal disorders of the liver.

Spasmodic diseases are of frequent occurrence, and

may be classed as convulsion, hysteria, tetanus. Fits are very common among children of all classes, and may be generally traced to some irritation of the alimentary canal, caused by the presence of worms, indigestible food, teething, &c. The peculiar farinaceous food which most children are fed upon, may partly account for the numerous and varied symptoms of disease caused by the irritation of worms in the stomach or bowels. Convulsions of this nature, though so common, are not, perhaps, so fatal as they are in England, their origin being more simple. It is true that with some children the fevers by which they are liable to be attacked sometimes induce convulsions; but other causes, besides the mere heat of the body, contribute to such unpleasant complications. Singular cases of sudden and fatal fits occasionally occur in children; they rarely happen in the night.

Some of the most common forms of disease prevalent here undoubtedly arise from the presence of worms in the alimentary canal. In consequence of the food which is consumed by the lower classes and by children, it is more especially noticed that disorders arise in the system of these parties from the irritation occasioned by these parasitic animals. Such food consists usually of plantains, either boiled, roasted, or pounded, and made into foofoo, or Conquin-Tay. Children who are fed principally upon milk, sago, tapioca, and similar articles of food, are liable to be more infested with worms than those who are brought up in the use of meats, and other animal food. Persons who make use of a mixed diet, such as constitutes the ordinary food of adults in the better classes of society in this country, and who partake of malt, wines, or spirits, are very seldom troubled with worms.

They are seldom or never met with in infants under seven or eight months, or before teething, and in those who have been raised principally by the breast until

they are weaned. From this age, however, they occur in the latest periods of life, and I have repeatedly known persons from sixty to seventy years of age who have passed worms. They are more common in women than in men, and I have observed that they are more generally passed by female children than by children of the other sex.

It is astonishing the number of worms that are sometimes passed by children. I have known instances where upwards of 100 have been evacuated by a young child, and occasionally above 50 have been discharged at one evacuation.

There are three kinds of worms met with in ordinary practice:

1st. The most common is the long round worm (the Ascaris lumbricoides).

2nd. The second is about two inches long, broad at one end and pointed at the other, the Tricocephalus.

3rd. The third is known as the Thread, or Maw-worm, and is met with in hundreds generally at the lesser part of the intestinal canal; this is called the Ascaris vermicularis, or Oxyuris.

A fourth kind is met with occasionally, viz., the Tapeworm (Tænia).

I only remember one instance having occurred in my practice of the existence of this species of worm. The patient was a black man, and was in the habit of passing portions of this parasite several feet in length. Although annoyed by the complaint, and suffering occasionally from pain, or rather uneasiness in the bowels, he was not by any means in bad health.

Hysterical affections are not of a nature to call forth any particular remarks as peculiar to this country. As elsewhere, they chiefly affect females, whose sedentary habits and pensive minds predispose to the disease, and

are perhaps less ascribable to climate than to moral and physical causes, which operate with equal caprice and peculiarities in other lands.

It has long been remarked that locked-jaw is of more frequent occurrence in warm climates than in cold. Whether this is owing to mere temperature, which is unlikely, or to a depression of the nervous system, incapable of acting regularly under conditions of irritation, or other causes, remain unexplained. Many persons, after exposure to a current of cool air, or to checked transpiration, have become attacked with stiffness of the limbs and body, and occasional spasm, called idiopathic tetanus. For the most part these cases readily recover, and are very amenable to treatment. In tetanus, the result of injuries or wounds, the case is very different. The spasms are intolerable and frequent, the rigidity incredible, and in the majority of instances the patients die, but often from neglect. Horses and other animals are very liable to be attacked with this disease, and with them it is equally fatal as with man.

Delirium tremens is a disease, unfortunately, too common, but originates altogether in the habits of individuals suffering from it. The climate, if anything, is favourable to the modification of the disease, indeed, it is almost incredible the number of attacks to which some patients have been subjected without being carried off by the violence of any. The causes which lead to this unhappy malady are intemperance, irregularity, and excesses. The old custom of the colony rendered spirit drinking unfortunately too common; the thirst so constant in this country became an excuse for stimulating draughts. The habit rapidly acquired was not readily relinquished, and in the end the bottle became as necessary to the victim as any of his meals, which latter often were superseded altogether by incessant drinking.

No country, in proportion, could, I am persuaded, instance more numerous and melancholy cases of this baneful disease than this. In former times it was still more prevalent ; at present there are some hopes of its decline, but altogether dependent on moral causes. It is the usual death of the unfortunate and disappointed. In nine cases out of ten, persons who have been defeated in some speculation, ruined by some change in fortune, cheated by some false friend, or otherwise impoverished and lowered in society, have unfortunately sought to drown in intemperance the cares which afflicted them, but only to raise up evils far more tormenting than those they sought to shun. The young, the accomplished, the intelligent, the beloved, the middle-aged, the old, nay, the delicate female, have all afforded to the colonists the distressing sight of human nature humbled by this depravity. The most exalted characters, the most useful and sacred professions, have been debased by this insane propensity. The evil formerly spread through all classes and all ranks, originating with, and most conspicuous in, the European (to his disgrace recorded), it has contaminated the simple native, infected the bondsman African and his emancipated descendants, and spread through every other race which has visited this land. The bad example of superiors has been imitated by those dependent on them, and it will take years of an opposite line of conduct to overcome the impressions stamped upon the public character.

Diseases of the skin are rather common, but are seldom so inveterate and aggravated as in Europe. Prickly heat (Lichen tropicus) is frequent among children and new comers, but is generally considered to have a salutary tendency.

Boils and other phlegmonous inflammations are unfortunately too prevalent, indeed their appearance pre-

vails at times almost like epidemics. In children, in the strong and robust, as well as in the delicate and ill-fed, their development is remarkable, but they seldom entail the same amount of constitutional irritation observable in other countries.

Rose (ædemitis) is an inflammatory affection of the absorbents or lymphatic vessels, which frequently attacks the creoles and others of this colony. It occasions pain, redness, and swelling on the arms or legs, and occurs like erysipelas after wounds, bites, or other injuries. If neglected, it leads to the development of that formidable disorder of the tropics so well known as elephantiasis, or Bucnemia tropica, which entails such deformity and suffering to individuals subjected to its invasion. For further particulars I take the liberty of referring my readers to a short essay on the subject written by myself, and published in the *Lancet** of 1846.

Leprosy is another frightful cutaneous (constitutional) disease, unfortunately too common to the natives; it is rarely known to attack Europeans or the white inhabitants. The victims are mostly black or coloured persons (for whom an asylum is provided), and it is astonishing to remark the apathy and indifference (constitutional and mental) which they display under its terrible invasion.

Diseases of the bowels are not particularly frequent or severe, considering the carelessness and irregularity of living among the inhabitants. Diarrhœas occur from change of seasons, quality of food, or the impure water occasionally drunk by the lower orders; sometimes a change of diet, consequent on change from one part of the colony to the other, induces it; now and then, even

* October 24th and November 7th, 1846.

in the city, it manifests itself in the form of an epidemic of a few weeks' duration, but it is found very amenable to treatment and soon disappears.

Dysentery is generally considered as very constant and fatal in warm climates. In many such places perhaps this is the case, but in British Guiana it is not particularly common or severe. When met with it is generally in broken-down subjects, and among the old and ill-fed, or among unhealthy immigrants, who feed on garbage, or indulge too freely in the unripe acid fruits of the country.

Dry belly-ache, or painter's colic, was formerly a very prevalent and serious disorder, but has been justly traced to the then common practice of drinking large quantities of sour French wines. Since that habit has been discontinued there is less of this disease among the better classes, while its appearance, though occasional among the inhabitants generally, is readily combated by judicious treatment. I have heard it remarked that tobacco smokers are less prone to its attacks than those who do not smoke, and my own observations tend to confirm the truth of the remark.

There are many grave and important diseases from which the colonists of this country are altogether exempt, and numerous others from which they are more or less free. Thus, for instance, there are no instances in this country of contagious or infectious fevers (except the exanthemata, viz., small-pox, scarlatina, measles, &c.). The endemic and epidemic fevers which occur are not of a character to spread by contact or the communication of the affected person with others in ordinary health. Again, calculus, or stone in the bladder, has never been known to occur, although occasionally slight cases of gravel are met with ; neither are diseases of the bladder common, or so fatal as in Europe.

Affections of the kidneys are also rare; "Morbus Brightii," that disease so well known to European practitioners, is by no means common, although albuminous urine occasionally occurs, but readily yields to treatment, and appears chiefly owing to some irregularity in the digestive organs. Diabetes mellitus, so frequent in England, has never been met with here to my knowledge, although noticed in the islands of the West Indies. Neither are other constitutional diseases, such as goître, scrofula, syphilitic affections, or gout so serious or prevalent as in colder climates.

Hydrophobia is unknown, although one or two spurious cases have been rumoured abroad as such by a few persons. In spite of the heat of the climate, dogs are never known to become rabid, although subject to fits. Cases of aneurism, malignant tumours, diseases of bones, and the various complications of constitutional and hereditary diseases, are by no means so common as in Europe and the United States.

It is, after all, the epidemics to which a country is liable which most materially influence its sanitary condition. In the preceding pages an attempt has been made to give a slight sketch of the chief diseases which may be considered as purely local and peculiar to British Guiana, and of most frequent occurrence. Almost every country is, or has been, at some time or other, visited by some fatal sickness, which increases the ordinary mortality of the district, and it is a subject admitting of considerable doubt whether this land has been more marked by any such casualties than other portions of the globe; for my own part, I believe that it has not, but as it is difficult of proof or disproof, the inquiry cannot be here pursued.

The epidemics which visit these shores are remarkably few in number, and, with the exception of one, are not

particularly fatal. The most important of these is that species of fever commonly called yellow fever, which has appeared in this colony at different periods from its earliest colonisation, and led to the greatest share of its mortality.

As far as my researches go, it has prevailed in this colony in 1763-4, 1819-20, 1837-44, 1851-3.

It is essentially different in its character to the ordinary types of fever met with here, but as far as I have been able to learn, has never proved so fatal as similar epidemics in Cayenne, Surinam, Barbadoes, St. Lucia, Jamaica, and other parts of the West Indies.

It would be out of place here to enlarge either upon its history or nature, the more especially as the subject has been treated lately by the Colonial Surgeon-General of this city, Dr. Blair, to whose excellent work I would refer such parties as may be desirous of further information. It is by no means an endemic disease of the country. It arrives and departs in a mysterious manner. It has never been regarded as contagious either by the medical practitioners or the inhabitants of this country. It is especially liable to attack Europeans, or others lately arrived from a cold climate. It rarely attacks creoles, or those long resident here; the black population are singularly exempt from its invasion. When present it is chiefly confined to the shipping, and to persons inhabiting the waterside districts of the town; but cases present themselves, although comparatively few in number, among persons predisposed to its invasion in the country districts. It seldom attacks the same individual twice. The success of the treatment depends chiefly on the promptitude in seeking competent medical advice in the early stage.

Those fatal epidemics which so often ravage other

countries are here unknown, such as Asiatic cholera, typhus fever, plague, ophthalmia, and their infinite varieties and complications.

There is one circumstance connected with the subject of epidemics which is both curious and deserving of notice, that is, the marked difference which characterises their effects on the several races. Thus, yellow fever attacks only Europeans and the white inhabitants recently arrived, whilst the coloured and black races are rarely or never affected. I have never heard of an instance of a black creole dying from this disease; and even among the white creoles its effects are not so violent.* Again, when small-pox has made its appearance, its effects were more severe in the black races than in the white. Measles, when prevalent as it was in 1847 and 1848, was chiefly, if not altogether, confined to the coloured and black races. Influenza, in like manner, is apt to attack the various races in different degrees, and the same may be said of scarlatina and hooping-cough. From which it would appear that while some epidemics exercise a marked preference for one race, the other does not suffer in the same proportion. It is rarely found that the same epidemic produces the same results in the several races. The symptoms of the disease will of necessity be alike, but they differ widely both in intensity and in degree. As all parties are exposed to the same source of infection, whatever that may be, this peculiarity in the epidemics of British Guiana can be accounted

* Since the above was written another fatal epidemic has unfortunately visited this colony. It commenced in December, 1851. During the prevalence of the present epidemic it has been noticed that several creoles and others long resident here have been attacked, but the cases were not numerous. Its ravages were chiefly exhibited among the new comers and sailors. A peculiar feature of the present visitation has been the tendency of some of the most serious symptoms becoming engrafted upon diseases of quite another nature during their last stages.

for in no other way than by the existence of some physiological difference in the system.

It may not be uninteresting, after having thus gone over some of the principal disorders to which the human frame is subject in this colony, to state the views entertained in Captain Tulloch's "Statistical Report on the Sickness, Mortality, and Invaliding among the Troops in the West Indies," and to see how the statements I have made are borne out by the tables he has published. The following table drawn up by him exhibits at a glance the admissions and deaths among a body of troops of about 164,000, for a period of 20 years, and gives an admirable view of the prevailing diseases to which they were subjected during that time:

	Admissions.		Deaths.	
	Total among whole Force in 20 Years.	Annual Ratio per 1000 of mean strength.	Total among whole Force in 20 Years.	Annual Ratio per 1000 of mean strength.
Fevers	62,163	717	3195	36.9
Eruptive Fevers	13	$\frac{2}{10}$	1	
Diseases of Lungs	9,975	115	906	10.4
„ Liver	1,946	22	161	1.8
„ Stomach and Bowels	36,474	421	1795	20.7
Diseases of Brain	2,447	28	312	3.7
Dropsies	659	$7\frac{8}{10}$	180	2.1
Rheumatic Affections	4,202	49	17	2.9
Venereal	3,043	35	6	
Abscesses and Ulcers	17,708	204	18	
Wounds and Injuries	11,149	129	60	
Punished	4,327	50	2	
Diseases of the Eyes.	7,686	89	4	
„ Skin.	559	6	1	
All other Diseases	2,584	30	145	
Total	164,935	1903	6803	78.5

We cannot but notice the great preponderance of fevers, with a mortality between 3 and 4 per cent.

This class of disease (says Captain Tulloch) is the principle source of sickness and mortality in this command, as it comprises considerably more than a third of all the admissions, and about a half of all the deaths, compared with the same disease; among troops in the country the admissions are ten times, and the deaths twenty-five times as numerous. Above two-fifths of the above admissions were from intermittent fever, which, however, rarely proved fatal, and was chiefly met with in Demerara, Berbice, and Trinidad. The eruptive fevers are here seen to be very rare, one death alone took place in the twenty years.

The ratio of mortality from diseases of the lungs is about 10½ per 1000, or little more than one per cent. of the whole force, whilst in Great Britain it is said to amount among the troops to 8½ per 1000. Consumption was found to be very fatal among the troops, the attacks being 12 per 1000 annually, whilst in Great Britain it amounted to about 5½ per 1000.* The islands in this respect are more unfavourable to persons predisposed to, or suffering from, this complaint, than British Guiana. It is remarked in this report that diseases of the liver are by no means so common in this command as in the tropical regions of the eastern hemisphere, although about thrice as prevalent as among troops in the United Kingdom, with a mortality about five times as high. It is found particularly prevalent and fatal in some places, as in Grenada.

Diseases of the stomach and bowels are a very fertile source of sickness and mortality among the troops, but this by no means applies to the other inhabitants of these

* Most of these cases of consumption did not certainly originate in the West Indies.

countries, especially of Guiana; the mortality in this table is upwards of forty times as high as among troops at home.

Under diseases of the brain are included cases of delirium tremens, which constitutes a large proportion of the mortality, the proportion of deaths to admissions being about one in eight, and it is remarked that a high temperature has not been found to increase the prevalence or mortality of this class of diseases in any marked degree. The proportion of admissions and deaths from this disease is about eight times that met with in the troops at home; most of the cases are, however, from fever in men with broken constitutions.

It is shown in a remarkable manner by this report that the prevalence and virulence of venereal diseases is singularly moderate, and can be attributed to no other cause than that the climate seems unfavourable to the existence and propagation of this disease. This statement perfectly agrees with the experience of the civil medical practitioner, and is corroborated by the oldest medical returns.

The prevalence and mortality of other diseases is so trifling as to offer nothing worthy of remark, so that even by these tables, gathered from experience among troops, a body of men particularly liable to disease, it is found after all that there is great immunity from a multitude of complaints which obtain in other climates.

Referring more particularly to British Guiana, it will be found that the mortality among the troops stationed throughout the country during the last twenty years was as follows:

	White Troops.			Black Troops.		
Years.	Strength.	Deaths.	Ratio of Deaths per 1000 of mean strength.	Strength.	Deaths.	Ratio of Deaths per 1000 of mean strength.
1817	852	55	64	415	12	29
1818	737	20	27	122	2	16
1819	876	64	73	129	6	47
1820	569	91	160	110	2	18
1821	542	118	217	131	4	31
1822	611	47	77	184	11	60
1823	576	35	60	175	9	51
1824	732	86	117	188	5	27
1825	1,158	109	94	75	7	93
1826	1,162	110	95	74	5	68
1827	946	137	144	132	5	38
1828	912	122	134	170	10	59
1829	796	47	59	216	6	28
1830	1,073	88	82	208	13	63
1831	968	107	110	210	6	29
1832	914	31	34	190	8	42
1833	998	55	55	180	8	44
1834	1,228	65	53	189	5	26
1835	1,028	62	60	156	5	32
1836	1,011	36	35	146	5	34
Total.	17,689	1485		3300	134	
Average.	884	74	. 84	165	6.7	40.6

It will be seen that the ratio of mortality among the white troops was about twice as high as that of the black; but, after all, the proportion of deaths is not very great, being for the white troops about 8 per cent., a ratio by no means large, if we consider the circumstances under which the troops have been generally placed in this country. Surely this fact alone should exonerate British Guiana from the stigma attempted to be cast on it of its being an unhealthy swamp; according to this report, moreover, it is expressly stated that the average of mortality per annum has been about the same as throughout the whole Windward and Leeward command.

In Trinidad, for the same period, the mortality of the white troops was about 10 per cent., the ratio of deaths

per 1000 of mean strength being on an average for the twenty years 106.3.

In St. Lucia about 12 per cent., or 122.8 deaths per 1000 of mean strength.

In Dominica about 13 per cent., or 137.4 deaths per 1000 of mean strength.

In Jamaica about 12 or 13 per cent., or 121.3 deaths per 1000 of mean strength.

The mortality among the black troops in British Guiana for the same period of twenty years was, as we have stated, about 4 per cent. of the admissions, or nearly 41 per 1000 of the mean strength; and is about the same as that throughout the islands—if anything, less.

The following table shows the principal fatal diseases of the troops in British Guiana:

	White Troops.		Black Troops.	
	Total Deaths in 20 Years.	Ratio of Deaths annually per 1000 of mean strength.	Total Deaths in 20 Years.	Ratio of Deaths annually per 1000 of mean strength.
By Fevers.....	1047	59.2	28	8.5
Diseases of Lungs	112	6.4	59	17.9
„ Liver.	19	1.	1	3
„ Stomach and Bowels.....	157	8.9	19	5.8
Diseases of Brain.	77	4.4	11	3.3
Dropsies.....	22	1.2	8	2.4
All other diseases.	51	2.9	8	2.4
Total.....	1485	84.0	134	40.6

It will be at once perceived how numerous are the deaths from fever, and how small the proportion of mortality from diseases of the lungs and liver. Another curious fact is the trifling ratio of mortality among the black troops from fevers, and the large ratio of deaths

from diseases of the lungs compared with the results among the white troops when the converse obtains.

The principal cause of the mortality from fevers was the prevalence of yellow fever, which appeared at some places in the colony from the year 1819 to 1828. The mortality during this period was sometimes about 5 per cent. of the fever annually; at other times about 10 per cent. of the deaths from fevers; about a tenth part were caused by intermittent fever. The mortality classed under diseases of the brain was chiefly owing to "delirium tremens," the result of intemperate habits rather than the effects of climate; and to this may fairly be ascribed the mortality from other classes of disease, since it is well known that the use in large quantities of ardent spirits impairs the constitution, predisposes it to many ailments, and renders it less likely to resist the attacks of any grave malady. Unfortunately, the facilities afforded in this colony to soldiers of obtaining rum and other spirits were very great; and led away by the fact of such facilities, by the absence of moral restraint, and by the thirst peculiar to warm climates, many have undoubtedly succumbed from these causes, when, perhaps, under other circumstances, they might have escaped those serious disorders ascribed by many solely to the influence of climate. There were, undoubtedly (and still are), years and seasons when a greater degree of sickness prevailed; but it is owing rather to the presence occasionally of severe epidemics (although very few in number), than to any endemic diseases, that anything approaching to a high mortality among Europeans has been observed.

The only two endemic diseases of any importance in British Guiana are intermittent fevers and ulcers; neither of them dangerous, if early and properly treated.

It is the popular opinion, and has already been alluded to in the remarks on climate, that the sanitary conditions of the several months of the year are very different, but that a certain uniformity obtains for the several seasons, which has been gathered from experience, and has given rise to the following doggrel, but metrical adage:

In July you die,
In August you must,
September remember,
October all over.

These four months are proverbially the most unhealthy, the first three especially; and hence the commencement of the long dry season is always regarded with suspicion by the experienced. It is more particularly when the dry or wet seasons are merging one into the other, that a greater degree of sickness obtains. Thus, after the long wet season commencing in May and ending in July or August, when the hot sun and incipient dry weather begins, it is remarkable how aggravated the cases of fever become, and how much more numerous are other disorders. When the dry weather is fairly established, this gradually declines until the next rains, or short wet season, when the sickness revives again, but not to any great extent. In the prolonged and very wet weather, the amount of sickness is comparatively trifling, but increases again as the short dry season is ushered in, and so on for other years.

This opinion is borne out in a remarkable manner by the following table from Captain Tulloch's Report, showing the admissions and deaths among the troops in this colony during nineteen years, and clearly establishing the unhealthy character of the autumnal months:

	Total Admissions.				Total Deaths.			
	By Acute diseases.	By Chronic diseases.	By Surgical diseases.	Total.	By Acute diseases.	By Chronic diseases.	By Surgical diseases.	Total.
January 19...	2,143	177	579	2,899	80	15	2	97
February 19.	2,267	183	486	2,936	71	13	2	86
March 19.	2,090	151	502	2,743	62	15	4	81
April 19	1,902	135	564	2,601	48	25	...	73
May 19	1,981	137	640	2,758	44	14	1	59
June 19	2,417	167	590	3,174	85	16	2	103
July 19	3,636	132	480	4,248	167	13	...	180
August 19 ...	4,148	128	444	4,720	158	18	1	177
September 19	4,018	106	412	4,536	145	10	...	155
October 19 ...	3,461	145	400	4,006	98	13	2	113
November 19	2,828	121	438	3,387	51	22	3	76
December 19	2,476	120	490	3,086	49	15	3	67
Total.	33,367	1702	6025	41,094	1058	189	20	1267

A candid exposition of its sanitary condition having been given, it is hoped that if we cannot claim for British Guiana a high rank in the scale of salubrious regions, some good will be effected in removing from the popular mind of Europe that unfounded prejudice which has so long stigmatised it, and rendered the reputation of these shores so unfavourable in respect to climate. Preconceived opinions, like deep-rooted weeds, require patient and frequent extermination. "He whose assent goes beyond his evidence," writes Locke on the conduct of the understanding, "owes this excess of his adherence only to prejudice, and does, in effect, own it when he refuses to hear what is offered against it, declaring thereby that it is not evidence he seeks, but the quiet enjoyment of the opinion he is fond of, with a forward condemnation of all that may stand in opposition to it, unheard and unexamined, which, what is it but prejudice?"

In spite of the assertions made in many books giving

rise to the unfavourable impressions left on the public mind with respect to the insalubrity of these regions, and admitting the great prevalence of fevers, some of them of a dangerous nature, what is, after all, the actual mortality compared with other nations? The diseases to which Europeans and others are subject have been fairly stated, and a slight analysis made of the valuable statistical information contained in Captain Tulloch's Report, by which it would appear that the mortality among the troops for a period of twenty years was less than that in Trinidad, Tobago, St. Lucia, and Dominica; and was about equal to that of the average of the whole command. It is shown by the following table that if fever is excepted, the disposition to, or mortality from, all other diseases is less in British Guiana than in any of the other settlements for both the white and black troops.

Annual ratio of mortality per 1000 of white troops serving in Windward and Leeward command (deaths from fever excepted):

Mortality in British Guiana.	Average of whole command.
24.8	41.6
Ditto for Black Troops.	
32.1	32.9

Again, if we compare the ratio of mortality among the slave population of all ages in the West India colonies from the years 1816 to 1832, it will be found that the average annual deaths to 1000 living were in Demerara and Essequebo 30 per 1000, or 3 per cent., and in Berbice 31 per 1000, little more than 3 per cent., being exceeded by four of these colonies, viz., Tobago, Granada, St. Vincent's, and Dominica; equalled by three, viz., Montserrat, Trinidad, and St. Lucia; and inferior to five, viz., Jamaica, Barbadoes, Antigua, St. Christopher's, and Nevis.

The following table, exemplified from Captain Tulloch's Abstract of Statistical Tables, and published by Mr. Porter, under the authority of the Board of Trade, gives further information on this subject:

	Annual Average per centage of Mortality.
Trinidad	3 per cent.
Tobago	4.2 „
Demerara and Essequebo	3 „
Berbice	3.1 „
Jamaica	2.5 „
Granada	3.3 „
St. Vincent	3.1 „
Barbadoes	2.8 „
St. Lucia	3 „
Dominica	3.2 „
Antigua	2.7 „
St. Christopher	2.8 „
Montserrat	3 „
Nevis	2.5 „

But independently of the West Indies, if one compares the mortality of British Guiana with that of European countries, the advantage is on the side of this colony. "Demerara (writes Montgomery Martin) has been cited as one of the strongest instances of a deleterious atmosphere, particularly among our West India colonies, but when we come to examine facts, it turns out otherwise; the range of mortality even among the labouring slave population is about one in 37 to 40, but in London and France it is equal, as regards the whole population, rich and poor, and in other countries it is even more."

The following table is deduced from his remarks:

	Annual Average per centage of Mortality.
Paris	3.1 per cent.
Berlin	3 „
Madrid	3.4 „
Rome	4 „
Amsterdam	4.2 „
Vienna	4.75 „
Naples	3 „
Wirtemberg	3 „
Nice	3 „

But we have still further evidence to adduce on this

subject. From an appendix to the Report of the Committee of the House of Commons on the Factory Bill it appears that in a number of 10,000 deaths in several places of England the duration of life was less than in the colony of Demerara, as shown by the following table:

TABLE SHOWING PROPORTIONATE AGES OF DEATH IN A GIVEN NUMBER OF CASES.

Locality.	Died under 20.	Under 40.	Lived to 40 and upwards.
London.....	4580	6111	3889
Rutland.....	3756	5031	4969
Preston.....	6083	7462	2538
Leeds.....	6213	7441	2559
Bolton.....	6113	7459	2541
Demerara.....	2749	4788	5212

Again, from the tables published by the late indefatigable Commissary of Population of British Guiana, Mr. Hadfield, in 1847, showing a statement of the mortality in the city of Georgetown during the nine years ending with 1846 (than which period none other has been more unhealthy), it would appear that the ratio of mortality was 3.54 per cent., or 354 in 10,000, which, considering the prevalence for some time of yellow fever and other epidemics, and the importation of a large number of unhealthy immigrants from India, Africa, and Madeira, many of whom died in the Georgetown Hospital, and swelled the list of mortality, does not contrast very unfavourably with many other countries and places (usually considered very healthy).

Centesimal Proportion of Deaths to the Population in

London	2.56
Birmingham	2.70
Sheffield	3.00
Bristol	3.12
Manchester	3.33
Liverpool	3.80
England	2.20
France	2.39
Prussia	2.66
Austria	2.99
Russia	3.59
Georgetown, Demerara	3.54

We have in this last table contrasted the mortality of the capital of British Guiana with both town and country of other nations, which is scarcely fair, for if we included the average mortality of the whole population of this land, it is probable that it would be under 3 per cent., and about equal that of the other parts of the world alluded to, from all which it would appear that before people of other countries condemn foreign possessions as unwholesome spots and charnel-houses, it would be better for them to examine more closely their own records, and ascertain whether the annals of Ireland, parts of Scotland, and many places in England, have not more terrible disclosures to make as regards mortality than the West Indies and this colony in particular.

CHAPTER IV.

OUTLINES OF RELIGIOUS HISTORY—THE MORAVIAN MISSIONS IN GUIANA FROM 1735 TO 1810—THE LONDON MISSIONARIES; THEIR RECEPTION BY THE NEGROES—THE MISSIONARIES TO THE INDIANS—THE ENGLISH CHURCH ESTABLISHMENTS; THEIR PROGRESS AND RESULTS—DIVISION OF THE COLONY INTO PARISHES—ESTABLISHMENT OF AN ARCHDEACONRY AND DIOCESE—EPISCOPALIAN CHURCH ESTABLISHMENTS—SCOTCH CHURCH—DUTCH CHURCH—ROMAN CATHOLIC ECCLESIASTICAL ESTABLISHMENTS—INDEPENDENT CONGREGATIONAL DISSENTERS—WESLEYANS; THEIR CHAPELS AND NUMBERS—LONDON MISSIONARIES.

In the course of the preceding pages occasional notice has been taken of the most important events connected with the labours of missionaries and the religious progress of the colony. Little, therefore, remains to be stated under this head. A glance at the history of missions,* the present condition of the religious denominations, and some account of the existing ecclesiastical establishments will comprise all the information necessary to be laid before the reader.

The missions to Dutch Guiana, comprising the colonies of Surinam, Berbice, Demerara, and Essequebo, were undertaken in 1735, after several consultations held by the

* The account given in this chapter of the Missions of the Moravian Society to Dutch Guiana is extracted from Historical Sketches of the Missions of the United Brethren for Propagating the Gospel, by John Holmes, compiled from Histories of Missions by Crantz, Joskiel, Latrobe, and Rister, and from the periodical Accounts of Missions, &c.

Directors of the Dutch Trading Company of Surinam, with the Bishop of Spangenberg, an intelligent, active, and influential member of the Society of United Brethren.

The first step was to send out three of the brethren to Surinam to inquire on the spot into the best mode of establishing missions. After their return to Europe, at the request of a gentleman of Amsterdam, a mission, consisting of two brethren, was sent to his estate in Rio Berbice, and arrived there in 1738. Circumstances soon induced them to remove to a distance of 100 miles up the river, to a place which they called Pilgerhut, from which spot they began to visit the Indians, and "soon gained the love and confidence of these good-natured savages."

In 1739 another brother and his wife joined them, and in ten years after they had a similar addition to their society. The Indians, at their first approach, would often fly with their wives and children. They were required to take the oath of allegiance to the local government, who, far from aiding them in their benevolent intentions, misunderstood their motives, and often misrepresented their designs. Many of the Indians were led to believe that the missionaries came to make them slaves. The Dutch planters circulated rumours to raise the jealousy of the natives, who were too credulous not to believe in them.

The Moravian missionaries were in no way assisted by the local legislature.

The Moravians, as well as the earliest Spanish padres, acted towards the Indians as teachers, magistrates, artizans, and doctors. In Berbice and Surinam they were well received by the natives, but were occasionally persecuted by the bush negroes, who destroyed several valuable lives.

In 1739 a mission was sent to Surinam, consisting of five persons, and increased the following year by two

more, who, after some time, established themselves in the Cottaka river, in the immediate neighbourhood of the Indians, but this settlement was abandoned in 1745, and two of the missionaries moved to Pilgerhut, while about the same time two brethren and their wives arrived there from Europe. They now made frequent visits among the Indians, travelling a circuit of 300 miles through a vast wilderness. These journeys were attended with the usual difficulties and dangers. About this time, assisted by a mulatto boy, who had been made a present to them by a planter in Berbice, and who understood the Arawak language, they composed a concise narrative of the life and sufferings of Christ in the Arawak language. This tract they took with them, reading it to the Indians, and expatiating upon it. In 1747, after a residence of nearly nine years, they had the satisfaction to perceive, "That the Divine Spirit was exciting a real hunger after the word of God among the Arawaks."

In 1748 the first Indian was admitted to baptism. After this scarcely a week passed in which the rite was not administered to one or more, and by the end of June the converts amounted to 39. Many of these now settled close to the missionaries, and by the end of this year 80 Indians, including children, lived in the settlement. About this time the directors of the missions in Europe had resolved to appoint a man of learning to superintend the establishment at Pilgerhut. They selected Theos Schuman, who arrived in 1748, and who, in one year, acquired such a proficiency in the language of the natives that he could converse with them, and translate the Scriptures in their dialect.

In the beginning of 1750, a deputation of eleven savages arrived at Pilgerhut from the Spanish possession on the Orinoco. These people had been visited by one of the Christian Indians, and his discourse had made such

an impression upon their minds, that they now came to hear the great word from the missionaries themselves. This embassy led to the result that in the sequel several pagans from that territory settled at Pilgerhut, and embraced the Gospel. A visit made by some of the converts to their relations on the Corentyn was followed by consequences equally pleasing, and before the end of the year several companies of fifteen or twenty persons came from those parts to settle at Pilgerhut, so that without reckoning those who occasionally visited them, there were then three hundred belonging to their congregation, of whom about two hundred lived in the settlement.

Great difficulties were now thrown in the way of the missionaries by the Colonial Government, and some missionaries who arrived in 1751 having scruples of conscience, declined taking the oath to the Government, and were obliged to return to Europe. Previously to this, the Government had been satisfied with the simple affirmation of the missionaries. For several years no further impediments were thrown in their way. "The visits from distant regions still continued, and through them the knowledge of the Gospel was widely diffused. Many more took up their residence at Pilgerhut, among whom were some of the rudest and most ferocious tribes, considered, even by the Arawaks, as the greatest barbarians; for they feasted upon the flesh of those whom they killed in war; but the word of God turned those tigers in human shape, and changed their ferocity into the meekness of the lamb."

Another circumstance which greatly promoted the prosperity of the mission was, that several of the converts were sufficiently advanced in knowledge to assist in the preaching of the Gospel; up to the close of the year 1756, they had baptised 367 persons, of whom 48 had died, and at this time there lived at Pilgerhut 233 persons,

besides children, and reckoning those who resided in the neighbourhood, the whole number amounted to upwards of 300.

In 1759, they were visited by an epidemic disease, which carried off forty of the Christian Indians, and had the unhappy effect of causing many of the others to leave the settlement, the opponents of the missionaries having represented such calamities as the punishment of an offended spirit. The same epidemic, however, unfortunately also carried off the governor of the colony, and nearly one-half of the Dutch colonists. These circumstances, together with a scarcity of provisions which simultaneously occurred, produced quite a panic throughout the whole community.

In 1760, Missionary Schuman returned from a visit to Europe, and died in less than six months after, and two active young brethren who had come out with him also died in a few weeks after. The epidemic and famine still raged with unmitigated violence, and in consequence of these calamities Pilgerhut was almost deserted, and at the end of 1762 the inhabitants were reduced to twenty-two in number. In 1763, in consequence of the fearful revolt of the negroes in Berbice, and hearing that the insurgents were within a few miles of the settlement, the missionaries resolved to proceed without loss of time to Demerara. They effected their escape in two companies, and proceeded thither; where they met with a kind and hospitable reception from the inhabitants. The Christian Indians who came with them likewise found here the needful means of support.

Thus terminated the once flourishing "Mission in the Rio Berbice," some of the missionaries returned to Europe, two, Cleman and Vester, who remained at Demerara, terminated here their earthly career shortly after. From the abandonment of the settlement on the river Cottaka

in 1745, no attempt was made to renew the missions in that colony until the year 1756, when two married brethren and five others, unmarried, were sent out to commence two settlements, one on the river Corentyn, and the other on the Saramaca. In the spring of 1757, they began to build and plant at a place called Sharon, on the Saramaca. Amongst the first Indians that joined them were some from Pilgerhut, and many of the Caribee tribe came to visit them, several of whom took up their abode at Sharon, or settled in its neighbourhood.

The jealousy of the bush negroes was excited by the settlement of the Indians here, and on the 25th of January, 1761, they made an attack on the mission, killed three Indians, and took eleven prisoners; they also wounded two of the missionaries and set fire to the premises. The missionaries with some difficulty escaped to Paramaribo. They afterwards returned to this station, but having lost four of their number within a very short time, and the fear of the bush negroes deterring the Indians from settling there, these and other circumstances led to the final relinquishment of this station in 1779. The settlement in Corentyn, which had also been commenced in 1757 by one individual, Mr. Dachne, made little progress for two years, when three other missionaries arrived. They built a church and dwelling-house, and laid out plantations, calling the place "Ephraim." It was whilst Mr. Dachne lived alone, exposed to attacks from bush negroes and wild Indians, who were unacquainted with his pious object, that the following singular circumstance occurred. After having suffered from the want of the common necessaries of life, he was at length attacked with fever, and laid in his hut, without friend or assistant, surrounded with wild beasts and venomous reptiles. Being one evening attacked with a paroxysm of fever, he resolved to go into his hut and

lie down in his hammock. Just, however, as he entered the door he beheld a serpent descending from the roof upon him. In the scuffle which ensued the snake bit him in three different places; and, pursuing him closely, twined itself several times round his head and body. Expecting now to be bitten or strangled to death, and being afraid that his brethren should suspect the Indians had murdered him, he, with singular presence of mind, wrote with chalk on the table, "A serpent has killed me." Suddenly, however, the promise of the Saviour darted into his mind, "They shall take up serpents and shall not be hurt." Encouraged by this recollection, he seized the reptile with great resolution, tore it from his body, and flung it violently out of the hut.

The settlement at Ephraim was disturbed by the rebellion of the negroes in 1763, and retired to Paramaribo, but in 1764 they returned, and finding their dwelling nearly in ruins, and considering the situation unhealthy, they removed higher up the river, and called the new settlement "Hope."

The congregation at Hope continued for several years in a pleasing course, and at the close of 1783 the number of Christian Indians belonging to the settlement amounted to 167 persons. During subsequent years the prospect became discouraging, the missionaries complained of the roving disposition of the Indians being a great impediment to their improvement, and that many who had given promise of better fruits lost the little they had obtained; and, besides, the small-pox and other epidemic diseases committed great havoc, especially among the Arawaks. This was the state of things in 1789 at the Hope, when J. J. G. Fischer arrived there; he is described as peculiarly qualified for the mission, being endowed with a vigorous constitution and an active and enterprising mind, improved by study. In a few months

he acquired such a knowledge of the Arrawak language as to be able to preach in it. He commenced a school for the children, and in a few weeks had thirty scholars. This settlement again assumed a flourishing aspect, which continued up to the year 1796. During the years 1797 and 1798 the mission had to encounter various difficulties. A scarcity little short of famine prevailed, and an epidemic disease carried off great numbers of the Indians. In the latter year Mr. Fischer was ordered by the Surinam Government to leave the Hope, and this was considered a severe blow to the mission. The number of inhabitants continued, however, to increase considerably, and at the close of 1799 it amounted to nearly 300; but from this period it began to decrease, and in 1804 was reduced to 146. In August, 1806, Hope was visited by a dreadful calamity, all the buildings being burned down, and in two years after the brethren quitted the settlement. Very many of the Christian Indians had been carried off by another epidemic, the remainder were dispersed, and a spirit of resistance and enmity to the Gospel became predominant. In 1812 the mission on the Corentyn was revived by the arrival of two missionaries. By accounts dated April, 1817, it appears that the missionaries had left the Corentyn and removed to the river Nikery, "there to preach the Gospel to the negroes in the neighbouring plantations."

During the above period the brethren, at the request of the Surinam Government, had sent a mission in the year 1765 to the bush negroes, consisting at first of three persons, but afterwards several were added to their numbers. They described the difficulties and dangers they had to encounter among these people in very lively colours, and the loss of life among the missionaries was very great. Up to the year 1780 they had only converted seven men, one of them a chief, who by his kind-

ness protected them from danger, and facilitated their labours. From this time forwards their labours were attended with better success; and up to the end of the century, fifty-nine of the bush negroes had been baptised. In 1810, however, dark and heavy clouds arose in that quarter, and the missionaries remarked, "if ever the power of Satan was anywhere manifest, it is among the free, or bush negroes." Shortly after this the mission was abandoned, at least for a time.

The society had also established a mission in Paramaribo, and one on the Cornewyn river, which are described as being attended with considerable success among the slaves.

The history from which I have derived these details concludes with a summary of the number of missionaries employed, and of the heathen brethren converted by their means, from the beginning of the mission in this country to the commencement of the present century, comprising a term of sixty-five years. During this period, 159 brethren and sisters had served in the mission, seventy-five of whom had departed this life in the country, sixty-three had returned to Europe, and twenty-one were still actively engaged in the service of the Lord on the different stations in Guiana. During this period there had been baptised by them 855 Indians, fifty-nine free negroes, and 731 negro slaves and mulattoes, making a total of 1645 persons. Of this number, 658 died in the faith of the Gospel, 594 were still living and enjoying the instruction of the missionaries, and the remaining 393 had forsaken the fellowship of the believers.

Thus terminated the laudable efforts of the Moravian missionaries in British Guiana; it would appear from this statement that their labours were chiefly confined to Berbice and its neighbourhood, and that, excepting an

occasional visit to Demerara and Essequebo, no religious settlement had been effected in either of these districts; after all, the native Indian afforded but poor encouragement in the arduous task of Christianisation. The apathy of indolence, the prejudice of superstition, rendered him difficult to be convinced. It is very interesting to remark, therefore, the progress which the above review exhibits of the beneficial influence of the missionaries; and when we are told of the difficulties raised by the local government, of the danger incurred from the assaults of the bush negroes, and of the frequent epidemics and scarcity of food which so commonly occurred, we are the more surprised at their patience and perseverance. Their simple manners and unostentatious habits made a lasting impression on the Indian mind, and rendered future efforts to preach the Gospel more acceptable and appreciated. The misfortunes and mortality of the mission have signalised the members as martyrs, and the wonderful and almost incredible dangers through which many of the survivors passed has cast an air of melancholy romance over their short but eventful history. They were the first labourers in this field of Christian culture.

In 1808, as has been already stated, the London Missionary Society sent out some of its members to undertake the unpromising task of instructing the negro slaves in religion. Gladly were they received by the oppressed children of Africa, and eagerly were their doctrines listened to and sought after; but, as we have also seen, their conduct was viewed with suspicion by the colonists, and feelings of opposition and enmity engendered between them. The promptitude with which the untutored slaves placed themselves under the guidance and instruction of these missionaries is a remarkable incident in their history. It was the first time the white man had associated on terms of equality with them;

their "amour propre" was flattered by the unexpected distinction, and as they soon perceived symptoms of alienation between the planters and the missionaries, they naturally enough ranged themselves in the lists of the latter. A religious spirit was rapidly raised up among them; large congregations in every district attested to the industry and zeal of the preachers, and the peculiarly austere and formal creed of these apostles of the Saviour was stamped indelibly upon the negro mind, to continue unchanged for years. A solemn, demure, and punctilious demeanour characterised their conduct in the chapel, and they listened with unwearied assiduity to the language of a doctrine so new to them. They found a refuge from their miseries in accepting the glad offers of salvation which were freely held forth to them; they soon learnt how opposed to such a religion was the character and conduct of many of the planters, and endeavoured, by their expressions and profession, to show to their masters how willingly they received the grace which was rejected by the others.

There was much in the negro character which associated them with religion; a consciousness of weakness and helplessness led them to cling to the assistance afforded by Christianity; a devotional and affectionate disposition rendered them open to the conciliation and love of the Gospel; whilst at the same time, a thirst for knowledge and a desire for improvement stimulated them to persevere in the only path of instruction open to them; but as might have been expected, they were sadly deficient in the practical tendency of the religion which they professed. Belief, worship, and praise were readily conceded by them; but when the hour arrived to apply the principles of godliness to the circumstances of life, they either mistook or abused the occasion. They would walk for miles through all weathers to attend the chapel,

they would devote hours to listen to their preachers, or join in the monotonous psalm-singing; they would forfeit pleasures and pecuniary advantages to commune with their Creator in some form of prayer or hymn; but they carried no such fervent zeal into the habits of daily action; they appeared to think that faith alone was necessary, and that good works were superfluous. They saw the eye of the God in the Church and in the Bible; but they forgot that the glance of the Almighty continued to follow them everywhere, and marked each thought and wish. The cant of hypocritical language often cast suspicion upon their sincerity; the lazy, the dissolute, the disaffected, met every rebuke and remonstrance by some Scriptural phrase or religious expression, whose meaning could in any manner be conceived to exonerate them from helping themselves. That charity which covers a multitude of sins seemed long wanting in them. Puritans in profession, they were liberals in practice; and so long as holy words met their ear, cared not to investigate further the tenets and opinions of their teachers. But with all their errors, which were in some degree inseparable from their position, there was an admirable opportunity presented to the missionaries of instilling sound principles of the truth and duties of our revealed religion. Unfortunately, the temporal condition of the slave was too often mixed up with this spiritual state; and the animadversions and reflections upon slavery, perhaps just in themselves, were little calculated to sooth the bruised spirit, or heal the gaping wound. The ministers of such chapels neglected the laws of the community in which they lived, and considered that in the service of God they could treat the ordinances of man with contempt and scorn. They forgot their obedience to temporal rulers in their desire to point out their vices, their oppression, and their injustice. They

aroused the slave to a love for God, but a hatred to man; they opened his eyes to his degraded and forlorn bondage, and darkly hinted at the power which might be employed to rend it. They have the merit of first instructing the negro mind in the knowledge and doctrine of the Saviour, and of imposing on him the necessity, if not the wish, to take up their cross, and follow Him; but they have also the shame to have imprudently and dangerously worked upon the passions of their hearers, until such passions broke through all restraint, and urged them on to disobedience, rebellion, and bloodshed. Unfortunate and disheartening was the result of the Moravian mission to the Indian; unhappy and calamitous was the effect of the London mission to the African negro; but each produced some good fruit amid the bitter, some lasting advantage amid the temporary disaster; the religion thus offered to these people has never been taken from them—the fire thus feebly kindled has continued to burn under every change of circumstance and time, and we will continue to trace its progress.

Up to the year 1829 the Church Missionary Society continued to send out some of its members to instruct and to impart religion among the negroes. In that year, however, Mr. J. Armstrong, a catechist, received instructions to proceed up the river Essequebo, and to ascertain the capability and the disposition of the Indian to receive similar assistance. Having reported favourably of their condition, he was directed to commence a mission to the Indians, and fixed upon a place called "Bartica," or "Red Earth," which is situated at the confluence of the Mazaruni with the Essequebo, hoping that the Indians of both rivers would find it equally convenient to visit him. The then governor of Demerara, Sir Benjamin D'Urban, granted 300 square roods of land for the purpose, and the missionary began his labours. He

had soon the happiness of witnessing the progress of his work, and by degrees a regular system of education and religious instruction was pursued, and advanced to such a degree as to render further assistance necessary. In the year 1833 Mr. Youd, another catechist, was sent to assist Mr. Armstrong, and it was arranged that whilst one resided at the infant mission the other should occasionally travel in the neighbourhood, and carry the "glad tidings" to the natives themselves. The settlement increased in size and importance, more buildings were erected, and the land cleared for gardens and planting. About a mile from the beautiful strip of land called "Bartica Point" Mr. Youd established a residence called the Grove, but unhappily between the two missionaries there arose some misunderstanding, which led to the retirement of Mr. Armstrong; and shortly after, about 1836, an epidemic of measles dispersed many of the settlers, and Mr. Youd having gone to Barbadoes to obtain ordination and to contract a marriage, found upon his return that the affairs of the mission were in a very deplorable state; nevertheless he continued there.

In the year 1837 the Reverend J. H. Bernau, one of the Church Missionary Society, a gentleman of considerable ability and of the most lively piety, was requested to leave his employment of preaching to the negroes in the Corentyn coast in Berbice, where he had been engaged about two years, and to proceed to the mission on the Essequebo, when he joined Mr. Youd, whom he found in sorrow and dejection at the failure of his plans. For some time the united efforts of these two amiable gentlemen proved unavailing; the Indians, influenced by their pe-i-men, or conjurors, objected to their presence and preaching, and frightened by the events of the first assemblage long opposed them; they were eventually, however, won over by the kindness and perseverance of

the missionaries, who soon had the happiness to see the settlement again rising, and the Indians willing to receive baptism, matrimony, education for their children, and burial for their dead.

About the year 1838 Mr. Youd, who had ascertained from Mr. Armstrong the readiness of the Indians in the interior to receive instruction, determined to proceed to the famous "Pirara," the supposed situation of the "El Dorado" of the Spaniards. After a few weeks' travel he reached that interesting spot, situated on the river Rupununi, one of the tributaries of the Essequebo, and after many dangers and difficulties had the happiness to see collected around him many of the natives eager to listen to the word of God, for the object of his mission had long preceded him. They had already built a church, and a house for the "dominie," as they termed the preacher, whilst their own simple huts lay strewed around — a strange contrast to the supposed wealth and opulence of the "golden city." The affairs of this distant mission progressed very well for a time, but in about a year Mr. Youd having occasion to visit the Grove, found, on his return to Pirara in 1839, the aspect of affairs completely changed. According to the indefatigable Sir Robert Schomburgk, who had been engaged in exploring the interior of British Guiana, it appears that on his return from an exploring expedition to Pinará or Pirara, in May, 1839, he found it occupied by a detachment of Brazilian National Guards, under Senhor Pedro Ayres. The church, in which formerly hymns to the praise of the Lord had been sung, and where the first seeds of Christianity had been sown among the benighted Indians, was now converted into barracks, and was the theatre of obscene language and nightly revels.

It appears that a Roman Catholic padre had visited this spot from the neighbouring fort of St. Joaquim to

attend to the spiritual wants of the garrison. "This boundary fort, which is pleasantly situated in the midst of the Savannahs, is built on the eastern shore of the river Takutu, within a few hundred yards of its confluence with the Rio Branco, the Parima of the Macusi Indians, or Urariguira, of the Parasilhanas. A detachment of Spaniards from Nuvoa Guayana, on the Orinoco, arrived in 1775 by the Caroni and Uraricapari at the Rio Branco, and fortified themselves in the vicinity of the confluence of the river Yurumi. They were dispersed by the Portuguese, who, against the incursions of the Spaniards as well as against the Dutch, erected the boundary Fort St. Joaquim. It is constructed of red sandstone found in the vicinity, and has fourteen embrasures, mounted with eight nine-pounders, in tolerable condition. A commandant, who is an officer in the provincial militia, and ten privates garrisoned it when we were there, and a small chapel and five houses constituted the village. Every two or three years a priest visits the fortress to administer to the spiritual wants of its inhabitants."

The Catholic priest finding the village of Pirara and its inhabitants under the influence of the heretic, no doubt on his return to Fort Joaquim acquainted the commandant with the state of affairs, who thereupon sent the above detachment, which gave rise to the change in the prospects of the mission. Mr. Youd was unwillingly obliged to relinquish the work he had begun, and receiving orders from the officer in charge to leave the spot, commenced another settlement at the Urwa rapids, where he strenuously endeavoured to rally the Indians around him; after considerable difficulty the ground was cleared and planted, but the natives came in slowly, owing to the Brazilians threatening them if they removed from under their protection. The indefatigable missionary still persevered until the loss of his wife, and another command from the

"fort" to retire compelled him in sorrow to quit the scene of his arduous efforts. As the Pirara and its vicinity is situated on the limits of British and Brazilian Guiana, the exact boundary of each were not settled, and several disputes and warlike demonstrations have taken place between the two nations, and the circumstances being reported to the British Government, an expedition under Sir Robert Schomburgk was appointed to survey the boundaries of British Guiana, and set off in 1841.

Meanwhile, the Committee of the Church Missionary Society becoming acquainted with the facts of the case, ordered Mr. Youd to withdraw altogether from the disputed ground, and he accordingly proceeded down the river Essequebo as far as the "Waraputa" rapids, where he hoped to establish a mission, but disappointment again awaited him; scarcely had he settled himself, and collected around him about a hundred settlers, when a military expedition, on its way from Georgetown to Pirara, requested him to accompany the troops as interpreter and guide. Having yielded to the request, knowing it was with the sanction of Government, and believing it to be for the interests of the natives, he proceeded with the small detachment of soldiers, and many of his settlers followed him. The Brazilians at Pirara fled at their approach, and the British flag was shortly seen to wave in this remote part of the "wild country." The chapel and the mission-house were again put to profitable use, numbers of Indians collected in the neighbourhood, but the immoral habits of the soldiers ruined the cause of religion, and the task of the poor missionary seemed hopeless. A rumour of the approach of an overpowering force of the Brazilians induced the soldiers to retire, the Indians disappeared, and the missionary having returned to Waraputa found everything forsaken and deserted. His health, long indifferent, now completely gave way; disheartened in

spirits, broken down in constitution from suffering and sickness, this unfortunate missionary lingered out for some time, and eventually died, not without suspicion that his death was caused by poison, administered to him by an Indian whom he had unwittingly offended.

Another missionary, the Rev. Mr. Pollitt, was directed to supply the vacancy occasioned by the death of Mr. Youd; he proceeded to Waraputa and diligently set about his object, but misfortune likewise awaited him—his life was nearly lost in traversing one of the rapids, and his health being seriously impaired he was obliged to return to England.

In spite of a few subsequent efforts to revive the mission at Waraputa, it has completely failed, a few partially civilised Indians, and half constructed buildings, alone mark the spot of so much toil and so much suffering. The amazed natives gaze at the ruins of Pirara, Urwa, and Waraputa, and reflect upon the temporary vision of a future state afforded them by the white men who had once preached amid its wilderness. His heart is warmed by the recollection of the friendly greetings and benevolent conduct of the humane strangers, and his eyes perhaps fill with tears at the remembrance of their sufferings and death; but his thoughts wander again to the great spirit of his own creed, and his feelings impel him to seek again his Indian conjurors and priests. Turning away from the traces of brighter days, he resumes in apathy and listlessness the "even tenor of his way," and, unmindful of the important interests of religion, follows the avocations of his forefathers, and sinks, like them, into the forgetful grave. But a more fortunate result awaited the mission already established at "Bartica Point." Under the judicious and pious superintendence of the Rev. J. H. Bernau, the settlement soon assumed the appearance of civilisation and cheerfulness; neat buildings were erected,

pleasant gardens and provision fields laid out, and a chapel was soon afterwards built, towards the construction of which the natives, besides their labour, contributed the sum of 150*l.* Another sum of 250*l.* was raised among friends by the missionary himself, and his Excellency Governor Light contributed as a present from the colony the handsome donation of 500*l.* Various kinds of employment were found for the Indians, who yearly increased in numbers round the settlement; the children were taught, and were well grounded in religion; after a certain age many were sent to Georgetown or elsewhere, and bound apprentices to various trades, and by their good conduct did credit to the labours of the missionary. A sincere feeling of religion sprung up among those resident at the settlement, and numerous converts were won over to the kingdom of Heaven. The inconsiderate mind of the Indian has been roused to a consciousness of its guilt, and many a heart, before hardened in sin, is now softened by repentance and contrition.

In the beginning of the year 1843, his Excellency Governor Light, the Lord Bishop of Guiana, the Venerable the Archdeacon, the Government Secretary, and other influential gentlemen visited the settlement of "Bartica," and expressed themselves favourably of the progress of the mission. The chapel was consecrated by the bishop, and a confirmation of many of the Indians took place. From that period up to the present time* the good work has steadily progressed under the same Christian Missionary, and strangers on visiting the colony are directed with pride to proceed to the Essequebo and mark the influence of Christian teaching upon the hearts and behaviour of the Indian. Not gifted with

* Since the above was written, the fate of this mission has been less promising—there are but few Indians found in the neighbourhood, and the Rev. J. H. Bernau has returned to Europe.

high intelligence, not endowed with lofty aspirations, the simple native of the country is possessed of warm and affectionate feelings when well treated, but is vindictive and dangerous when deceived or injured. Disinclined to toil, and inapt to trade, the Indian requires some stimulus to civilisation; surely no better or more certain method could have been adopted than to Christianise him! and the principles of true religion being instilled into his heart, cannot but be productive of good, both to himself, his family, and descendants. A firm hold seems now to have been taken of his sentiment, a sure footing established in his neighbourhood, and unless the neglect or apathy of Government, or the evil examples of the wicked frustrate the good work which has been begun, we may hope that at some future period Bartica will become the city of the regenerated Indian, and the symbol of the Cross conspicuous in the vicinity of the tall forest, the rocky mountain, and the flowing rivers. At the time when the colony of Dutch Guiana was surrendered to the British, the progress of religion had been trifling. A church for the use of the Dutch was indeed built on Fort Island, the ancient capital of Essequebo, and another place of worship according to the Lutheran creed was established in Berbice, but in Demerara, at the commencement of the nineteenth century, there was neither church nor chapel, and although it is possible for religion to be practised without the assembling together of individuals within sacred walls, yet it would have been difficult to have recognised the belief of the community in the Scriptures by judging of the general conduct and tone of morality. There were many good qualities exhibited in the lives of many of the colonists; there were many acts of kindness and generosity which marked their career, but unfortunately few possessed anything like a lively sense of the revealed word of God. The few attempts made, as above narrated, by the missionaries to improve the moral

condition of the slave had been met by coldness and opposition on the part of the planters, and had ended in little more than proclaiming to them that a God existed, of whom perhaps they were before ignorant, or in doubt. The harsh severity of human laws, although considerably modified of late years, still pressed with intolerable weight upon the unhappy negro, and, deprived of consolation, he lived without a hope beyond the grave, and looked forward with indifference to his fate in another world, when after years of toil he should be called away from this.

It is from no wish to claim for the British any particular merit or sanctity that I present the reverse of this picture in the success that attended subsequent efforts; but it is certain that soon after the English took possession of the colony, the progress made in morality and religion was rapid and striking.

We have seen how English missionaries eagerly undertook the task of instructing the negro, and have sufficiently dwelt upon the benefit, as well as the errors, of their system. From the time of their first landing they have never deserted these shores. Intimidated by threats, threatened with expulsion, unsupported by the Government, separated from society, a regular succession of them has continually endeavoured to uphold the supposed interests of the negro, temporal as well as spiritual, against the influence of authority. The English inhabitants up to the year 1810 appear to have had no regular place of worship, a service according to the Liturgy of the Established Church was read by the Colonial Chaplain at the Court House, and was scantily attended by a few white inhabitants; but the necessity for a Church being more and more experienced, endeavours were made to erect one, and in the year above named a neat wooden building, "St. George's," was opened for public worship in Stabroek, and was the first episcopal church established in the colony.

By degrees educated clergymen arrived from England, and several other churches were erected in various parts of the colony, both at public and private expense. Their congregations were composed of a few of the neighbouring white families and the labourers on the estates, but there was a marked contrast in the manner in which the negroes received their spiritual aid and advice to that of the missionaries. They attributed to the clergymen of the Church feelings of pride and superciliousness towards themselves, and regarded them as rather mixed up with the interests of their masters than with theirs. They could not approach them with the same feelings of friendliness and familiarity with which they greeted the missionary minister, and could scarcely regard them with any other feelings than those of jealousy and suspicion. They complained of the language of the pulpit in the former being too refined and difficult for their understandings. The precepts of religion advanced were rather general than special; they could find little in such doctrines to apply to their own particular state; and expecting to discover in the matter of discourse some reference to their temporal and servile condition, they went away disappointed from the church. It is true they were taught their duties to God, to their superiors, and their masters and neighbours; but there were no flattering expressions of equality, no leading principles of liberty submitted for their approval. Their hearts were endeavoured to be reached by the formal recital of God's goodness and grace; but they felt no enthusiasm in listening to the word of the Bible so long as it did not expatiate upon, or allude to, their unhappy state of bondage. They heard with surprise their more prominent sins and offences pointed out and condemned, but were rather offended than self-convicted and humiliated. No vehement declaration about injustice and oppression in-

flamed their minds or excited their thoughts. Their attention was not fixed, nor their imagination fired by the studied language of the episcopalian preacher, and they turned away discontented with the view of religion presented to them in such an uninviting garb. If allusion was, indeed, occasionally made to their temporal position, it was only to remind them of the obedience and submission which the Bible exacted to rulers and those in authority. Whilst encouragement was held out to them to seek rather "those things which are above," they still naturally enough clung to some bright hope in this, and expected to hear it announced or insisted on by their teachers. They saw the clergymen of the Established Church associating and mixing in the society of their masters and owners; and how could they look from such parties for the impartial and disinterested denunciations of the "living truth?" They could not cordially seek the acquaintanceship, much less friendship, of an individual whom they saw on familiar and friendly terms with those opposed to them in interest, character, and principle. It may be that the clergymen did not trouble themselves much to cultivate or seek their good-will; it may be that they considered it imprudent if not dangerous to treat of such subjects as were likely to excite the negro, and carefully avoided any occasion to question the right or justice of the system of slavery; but contenting themselves with the expounding of sin and its consequences, left the work of temporal regeneration to other and more appropriate hands. Most of the gentlemen who filled such situations were, however, well educated and pious (with the exceptions we have nothing to do); but as a general rule, it must be admitted that they failed (perhaps still fail) to attract the ready sympathy of the negro audience; and, however just their opinions and conduct, rarely met with that popular

applause which, in spite of its fickle hollowness, is still so flattering to the human mind.

The spread of religious instruction, and the gradual augmentation of the number of clergymen and churches, rendered it imperative that some division should be made of their labours and districts. In the year 1826 an act was passed by the Lieutenant-Governor and the Court of Policy "to divide the united colony of Demerara and Essequebo into ten separate and distinct parishes;" the names and extent of these were accordingly defined. Berbice was subsequently divided into parishes, and an episcopalian church was erected in New Amsterdam shortly after. In the next year, 1827, an amended act was passed by the same authority, "to establish and regulate vestries throughout the colonies of Demerara and Essequebo." The vestrymen were enjoined to associate with the ministers of the parishes in regulating the local matters of their district and church, and to communicate with the Court of Policy in cases of doubt and difficulty; a penalty was exacted in case individuals should refuse to act as vestrymen when nominated by the Governor and Court of Policy. A similar ordinance was subsequently passed by Lieutenant-Governor Smyth and the Court of Policy in December, 1836, in the district of Berbice.

In 1831 an ordinance was passed "for regulating and preserving registers of baptisms, marriages, and burials;" but in 1838 an Order in Council appeared, providing for the regulation and registry of marriages, adapted to the "altered state and condition of society in the colonies;" while in 1843 an ordinance was passed by Governor Light and the Court of Policy "to establish a registry of baptisms and burials in British Guiana."

Since the year 1826 the colonies of Demerara, Essequebo, and Berbice, and their dependencies, were con-

sidered " to be respectively parts and parcels of the see of the Bishop of Barbadoes and the Leeward Islands;" and in the second year of her present Majesty's reign " one archdeaconry was constituted in and over the colony of British Guiana, subordinate and subject to the bishop's see of Barbadoes and the Leeward Islands." The Rev. P. Austin was appointed archdeacon, the Bishop of Barbadoes making an occasional visit to the several districts. In consequence, however, of the increased responsibility attaching to the jurisdiction of ecclesiastical affairs in the colonies generally, it appeared proper to the British Government to appoint several colonial bishops. On the 1st August, 1842, British Guiana was separated from the diocese of Barbadoes and erected into a distinct bishopric. By letters patent of the Queen, the Rev. Dr. Austin, archdeacon, was appointed the first bishop of the Episcopalian Church in these realms, " subject and subordinate only to the archiepiscopal see of Canterbury, and to the most reverend the archbishop of the same." Archdeacons were subsequently appointed to the several counties of Demerara, Essequebo, and Berbice. It is only just that praise should be accorded to the gentlemen nominated to such important offices. The bishop has had to contend with all the difficulties of a new office, and to inspire confidence and affection on the part of his brother clergymen, above whom he had been thus unexpectedly elevated. Junior to many of them, his bland and conciliatory manner, his earnestness and zeal in the cause of the Church and of religion have rendered him esteemed and respected by all classes.

The Venerable the Archdeacon Lugar,* of Demerara and Essequebo, likewise fully deserves all the friendship and respect entertained towards him, not only by his parishioners, but by all persons who have had the oppor-

* Since dead.

tunity of witnessing his industry and attention to his numerous and important duties. The same good-will and affection is also shown to the Archdeacon of Berbice, and to the clergy generally for their Christian deportment and piety. Besides the bishop and two archdeacons, there are three rural deans, one for each of the counties of Demerara, Essequebo, and Berbice.

The following is the present distribution of parishes in British Guiana :

Episcopalian Church Establishments.

St. George's parish embraces Georgetown and the estates along the Cummingsburg canal. It contains about twelve churches, chapels, and other places of divine worship.

St. Paul's parish extends from plantation Cumming's Lodge to plantation Nooten Zuil, and possesses one church and two chapels.

St. Matthew's parish is from Georgetown up the east bank of the river Demerara as far as the settlements extend. It contains but one church.

St. Swithin's parish reaches from plantation La Grange, on the west bank of the river Demerara, to plantation Jalousie on the west coast. It comprises one church and a chapel.

St. Peter's parish comprises the island of Leguan and Hog island, where there are churches and chapels.

St. John's parish is in Essequebo, and extends from Schoomhoven creek to Capouie creek, including the settlements on the intervening creeks and Tiger island.

Trinity parish, likewise in Essequebo, includes the districts between Capouie creek and Pomeroon river, and as far as the British settlements extend. It includes chapelries on Waakenaam island.

All Saints' parish is in Berbice, and comprises the town

of New Amsterdam, plantations Overwinning, Providence, and the settlements on the left bank of Canje creek.

St. Michael's parish, also in Berbice, extends from the Abary creek to plantation Balthyock.

St. Patrick's parish includes the settlements on the right bank of Canje creek and on both sides of the East Coast canal.

CHURCHES.—The present handsome cathedral of the city of Georgetown was commenced in 1839, and the site chosen was that occupied by the old church St. George, erected since 1810, which was pulled down, and altered and improved to form the present building. It was finished and opened for service in August, 1842. It cost about 12,000*l.*, towards which sum the colony granted about 7000*l.* At its eastern end it is ornamented with two large painted windows: one, the largest, was the gift of Governor Light; the other, circular in shape, was a present from the bishop. This church has a fine organ and an accomplished organist.

Christ church is another episcopal establishment. It was erected at private expense, in 1837, by a few gentlemen of the colony, and cost about 6000*l.* Its present minister, the Rev. W. Fox, has a large and respectable congregation, and is deservedly respected for his zeal and Christian deportment.

St. Philip's church, also a place of worship for the members of the Church of England, is made of iron, and was imported from England, chiefly at the expense of the present incumbent, the Rev. J. H. Webber, a gentleman of attainments and piety.

The number of persons belonging to the Church of England is, in Demerara, 19,353; in Essequebo, 13,154; in Berbice, 7280. Total, 39,787.

The Church of Scotland is one of the oldest in the country; it comprises nine parishes:—

St. Andrew's parish has the same boundaries as those of St. George; with a commodious church in Georgetown, and an excellent school. Its venerable minister, the Rev. J. Struther, D.D., is much esteemed by his large and respectable congregation.

St. Mary's parish extends from Abary creek to plantation Lowlands, including Mahaicony and Mahaica creeks with the settlements on their banks.

St. Mark's parish is from plantation Mindenburg and Canal No. 1, along the west bank of the river Demerara.

St. Luke's parish comprises the estates and villages from plantation Blankenburgh to the river Essequebo.

St. James's parish is in Essequebo, and embraces Waakenaam and Troolie islands.

The remaining parishes are situate in Berbice; St. Clement's parish includes all the settlements on the east bank of the river Berbice from plantation Everton to plantation Onderneeming, both inclusive.

St. Catherine's parish consists of the settlements on the west bank of Berbice river from plantation Zorg-en-hoop to plantation Herstelling.

St. Saviour's parish embraces all the settlements on the Corentyn coast and river.

All Saints' parish comprises the town of New Amsterdam and its suburbs.

All these parishes have good churches, schools, and respectable ministers. The members of the Scotch Church amount in Demerara to 5436; in Essequebo, 3287; in Berbice, 2941; total, 11,664.

The Dutch Reformed Church has at present but few members; from being the oldest and most important clerical establishment it is now reduced to a small section of the community, but, nevertheless, has an intelligent and well-educated minister, the Rev. G. Drost, who officiates

alternate Sundays in Georgetown at the Scotch church, and in Fort island at the church erected there.

Before the year 1770, divine service was performed in what was then termed the "Church Buildings," but on the 24th June of this year the last sermon was preached there by parson Lingins, who took for his text Isaiah, ii. chap., 3rd verse.

On the 1st of July following the newly-built church was solemnly consecrated, and the preacher chose for his text Ezra, vi. chap., 14 to 17 verses. Upon this occasion a great many persons belonging to the congregation assembled to witness the ceremony.*

From the year 1766 to 1793 parties about to contract marriage were always *undertrowed* (betrothed) by the clergy, except in cases of sickness; an announcement to that effect was made in the church for three successive Sundays, in conformity with the code of marriage regulations of 1656. From 1793 to 1796 there were no regular clergymen in the colony, and certain fees to the amount of two hundred guilders were exacted for the ceremony of undertrowing. When the clergy were again established, they petitioned in 1819 against this ceremony being transferred to the civil or lay power, and protested against the regulations then in force on this subject.

The Roman Catholic Ecclesiastical Establishment comprises a large church, with a dwelling-house attached for its priests, and a well-conducted convent, both in Georgetown, besides several chapels and missions throughout the colony, viz., on the east coast, Waakenaam, Arabian coast, west bank of Demerara river, Berbice, Morocco creek, and other places. The head of the Church here is the Right Reverend J. T. Hynes, D.D., bishop and vicar apostolic, who is assisted by the Reverend F. Hayden—all of whom are respected for their piety and

* Extract—Notulæ of the consistory of the Dutch Reformed Church.

zeal. The Ursuline convent in Georgetown is under the immediate superintendence of Mrs. O'Brien, superioress, and comprises a religious community of ten ladies, who have established a school for female children, which is much appreciated by the community. The number o Roman Catholics in the colony is about 10,000, and the continued influx of Portuguese immigrants is calculated greatly to augment it.

There are several Independent congregational Dissenters in the colony, who have commodious chapels, large congregations, and respectable schools and teachers. New Providence chapel is in Georgetown, under the charge of a pious and accomplished minister. The city Independent chapel has also a congregation, and a useful minister. Salem chapel is at the Lodge, one of the suburbs of the city, and has a good congregation, presided over by a clergyman of African descent, who is well educated, and much esteemed by the members of his church. The numbers belonging to this class of Christians are about 14,000.

The Wesleyans first established themselves in this colony about the year 1809, under the leadership of William Claxton, who came from one of the Leeward islands. They soon afterwards found it necessary to write to the committee of Wesleyan Missions for a minister, and the Rev. Mr. Talboy was in consequence sent out to this country, and arrived here on the 20th of February, 1814. They subsequently built a chapel in Georgetown, and have continued to increase their numbers, at all times meriting the esteem and good-will of the inhabitants. They possess now about twelve chapels, both in town and country, and reckon seven ministers of unimpeachable character and respectability. Their numbers throughout the whole colony may be estimated at about 9000 persons. It would appear that in 1794 the

Wesleyans of Europe wrote to the States-General requesting permission to send missionaries to Guiana; this request was referred to the Court of Policy, but was objected to and refused by that body.

The churches and chapels belonging to the London missionaries are numerous and respectable. In Georgetown, Smith chapel has been built by the efforts of the energetic minister, the Rev. E. A. Wallbridge, and his congregation, as well as a large school-house adjoining. The chapels in Berbice on the east and west coasts of Demerara, on Leguan, Canal No. 1, and other places, are equally well supported and attended as Smith's chapel, and the labours of the several excellent ministers duly appreciated by all ranks; to each of the chapels, schools and teachers are attached. The numbers attached to these churches are 15,600.

NATURAL HISTORY

OF

BRITISH GUIANA.

THE VEGETABLE KINGDOM.

PART I.—GENERAL REMARKS—PLANTS YIELDING EDIBLE PRODUCTS—THE SUGAR CANE—ITS VARIETIES AND PRODUCTS—RUM—THE PLANTAIN TREE—COTTON—COFFEE—MAIZE, OR INDIAN CORN—CASSAVA—RICE—SPICES—PEPPERS—COCOA—GUINEA CORN—TOBACCO—PLANTS YIELDING STARCH—PLANTS YIELDING DYES, OILS, GUMS, AND RESINS.

PART II.—ALPHABETICAL LIST OF SOME OF THE MOST COMMON TREES AND PLANTS OF BRITISH GUIANA.

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IN entering upon the consideration of the vegetable kingdom, of the trees, plants, and shrubs of the colony, I feel almost at a loss how to convey anything like an adequate idea of the innumerable objects presented in this vast field of inquiry. The forests abound in valuable timber trees, whose woods are of the highest value in ship-building, cabinet and house work. I have made an alphabetical list of some of the principal timber trees, a reference to which will furnish the reader with the usefulness and value of the woods of the colony. Besides these, a large number of medicinal plants abound; the properties of some,

such as the sarsaparilla, copaiba, laurel oil, ipecacuanha, simaruba, quassia, are well known; but there are many others whose qualities are but imperfectly understood even to the native Indian, who has learned from experience that certain plants have been used by his forefathers for particular ailments, and who culls from the luxuriant forests, or the fertile banks of streams, the plant best suited for the disorder under which he may happen to be labouring. Nor is the knowledge of the medicinal herbs confined alone to the Indian: the negroes are commonly in the habit of using the leaves, bark, and roots of numerous common plants in the treatment of disease, or for the alleviation of some morbid symptom. According to their belief—and indeed my own accords with theirs—there is scarcely a plant found without possessing some remarkable quality, useful either as medicine or food, or capable of yielding some valuable product. Thus the angostura, mangrove, cashew, hog-plum, papaw, yaruri, quama, pacurie, waracourie, fitweed, mocco-mocco, eye-plant, mudar, cephalic vine, guaco, vervain, goat-leaf, duckweed, prickly pear, boeirari, physic nuts, lana, dali, and a host of other plants, are in common use among the natives of the country.

Plants yielding Edible Products.

It would be difficult to enumerate the numerous trees and plants which contribute to the necessaries or luxuries of the table in this country; a few, however, may be noticed.

The yams are sufficiently known without further description, and are of inestimable value, although not cultivated to the extent desired.

There are several varieties, such as the buck yam, the common yam, the Guinea yam, the Barbadoes

yam, and other species, which may almost be said to grow wild in the fertile soil.

The sweet potatoes (Convolvulus batatas) are of native growth, and the demand for them is much greater than the supply. The same may be said of the numerous species of eddoes (Caladium), and Indian kale, or spinaches, ground nuts (Arachis hypogea), and other similar vegetables.

The ochro (Hibiscus esculentus) is a favourite plant, commonly cultivated by the negroes and others for its useful properties. The young capsules make a delicious and nutritious soup; the leaves are found cleansing and detergent for the hair, and are believed to add to its growth and beauty.

The sorrel plant (Hibiscus sabdariffa) is a pretty and useful shrub, the capsules of which are used in making a favourite creole beverage called "sorrel drink," by fermenting a sweetened infusion.

Besides the above, the bread-fruit tree (Artocarpus incisa), the bread-nut tree (Artocarpus nucifera), Brazil nut tree (Bertholletia excelsa), the avocardo, or vegetable pear (Persea gratissima), and many others, deserve notice.

THE SUGAR CANE.—(*Saccharum Officinarum.*)

Sugar, the well-known product of the sugar cane (Saccharum officinarum), is the staple article of export of this colony, and has been so for many years. It is the oldest and the most enduring of those various valuable plants which have been introduced into British Guiana from other parts of the world. Since its first manufacture and exportation, it has never—like other valuable plants, such as cotton and coffee—ceased to be sedulously and diligently cultivated. It has given rise to the present importance of this "magnificent

province." It has realised large fortunes for clever speculators and capitalists, but it has also been the cause of ruin to hundreds who have unsuccessfully ventured in the lottery of the sugar market. The vicissitudes in the quality and quantity produced, in the prices realised, and in the difficulties attending its cultivation, and the duties levied by the British Government on its admission into Great Britain, are all intimately connected with the social and political history of the colony, and have been already alluded to. The cultivation of the sugar cane began in this colony about the year 1600, or shortly after the Spaniards took possession of the Americas. Its early history deserves, perhaps, a little notice in this place.

The synonyms of the word sugar in other languages are as follows:

English.	Latin.	Spanish.	Portuguese.	Arabic.
Sugar.	Saccharum.	Açucar.	Assucar.	Zucra. Soukar.

In the Old Testament the sweet cane is mentioned as an article of merchandise.*

The ancients were well acquainted with its uses, and being a native of the East, it was in all probability cultivated by many of the nations.

Sugar appears to have been known to the Chinese before the time of our Saviour.

There is a passage in Dioscorides which seems to imply that the art of granulating the juice by evaporation was practised in his time; for he describes sugar as having the appearance of salt, and of being brittle to the teeth:

"Salis modo coactum est; dentibus ut sal fragile."

Lucan also, enumerating the Eastern auxiliaries of Pompey, describes a people who used the cane juice as a common drink:

"Quique bibunt tenerâ dulces arundine succos."

* Isaiah xliii. 24. Jeremiah vi. 20.

From the countries of the East, the cultivation of the sugar cane spread towards the south of Europe, where its use became generally known about the time of the Crusades.* In the history of that period frequent mention is made both of sugar and the sugar cane.

A monkish writer† observed that the Christian soldiers in the Holy Land frequently derived refreshment and support under scarcity of provisions by sucking the sweet canes. The same author, in his account of the reign of Baldwin, relates that the Crusaders took eleven camels laden with sugar, so that it must have been made in considerable quantities.

It would be tedious to enter into the arguments as to whether the sugar cane was found by the Spaniards on their discovery of the New World, or whether it was carried thither along with a great variety of plants by Columbus or some of his followers.

From the fact of a species of sugar cane having been found in several islands of the Pacific Ocean by subsequent discoverers, who have especially alluded to this circumstance, it appears probable that one or more species of the sugar cane was found also in different parts of the western continent. Whether or no that the Spaniards did or did not introduce the cultivation of the sugar cane in the Western World, it is quite clear, however, that they first applied themselves in those countries to the manufacture of the sugar by means of "ingenios," or sugar mills, of which, according to Oviedo, there were no less than thirty in the island of Hispaniola in the year 1535.

The soil being found so favourable to its cultivation, and the earliest speculations so successful, the example thus early set by the Spaniards was speedily followed

* B. Edwards, vol. ii. p. 233.

† Albertus Aquensis.

by future adventurers who settled in the Antilles, until sugar became the chief staple commodity and article of export from nearly all the colonies in those latitudes.

There are at present three varieties of the sugar cane in general use in this colony.

The creole cane (Saccharum commune), the cano creolia of Cuba, was probably the earliest known here, and was derived by the Spaniards from the Canary Islands.

The Bourbon cane (Saccharum Bourboni) probably succeeded the other, and was brought from the island of that name, being introduced there from Java, where it appears to be indigenous.

The Otaheite cane (Saccharum officinarum) was discovered by Bougainville, Cook, Bligh, and other travellers, in the Society Islands, and was afterwards introduced into the West Indies. Bougainville first carried it to the Isle of France (Bourbon), where it passed to Cayenne and Martinique in 1792. The Otaheite cane was already cultivated in 1795 in Trinidad, and was sent from thence to the plantations on the main land.* This description of cane is most generally cultivated in this colony.

Other varieties of cane are also in cultivation in the West Indies: namely, the white cane; the violet, or purple cane; the black cane; the Brazil cane; the striped Bourbon; the Mont Blanc cane; the ribbon, or gingham cane, &c.†

The sugar obtained from the varieties of cane differs in quality, appearance, and value, according to the process used in its manufacture.

Sugar is manufactured in such different ways, and upon such different systems, on the various planta-

* Schomburgk's History of Barbadoes. † Ibid.

tions, that it would be almost impossible to give a detailed account of them; nor is it necessary. The general principle upon which sugar is extracted from the plants yielding it is so commonly understood as to render a particular description undesirable in this place.

The system generally practised is simple enough: the juice, or liquor, of the cane is first pressed out by machinery, the fluid is conducted into cisterns, or boxes, where an alkali, such as lime, is added to neutralise acidity, and otherwise defecate it. In some instances it is further defecated, or clarified, by passing it through filters, or large iron vessels called clarifiers, where it is treated either by steam or the open fire before it is passed into successive cast-iron pans, called "coppers," where it is thoroughly boiled, skimmed, and evaporated to the consistence of a thick syrup, when it is transferred into the "coolers," large, shallow, wooden vessels like enormous trays, where it is allowed to crystallise.

Some practical knowledge is required throughout the whole of this process, especially at the stage known as the "striking point," when it is of importance to judge accurately of the fitness of the boiled syrup to crystallise. By this process the common well-known Muscovado sugar is prepared, but on many estates beautiful sugars are manufactured by the "vacuum pan," which for many years has been in partial use here.

There are various ways of preparing the syrup before it is transferred to the pans. Sometimes the syrup, having attained a density of 25 deg. of Beaume, is filtered through animal charcoal, and crystallised in the vacuum pan. Excellent sugar is also manufactured on some estates by "Hardman and Finzell's

patent centrifugal machine,"—a very simple and admirable process, by which thick syrup introduced into the revolving pans is rapidly evaporated to a dry, crystallised sugar of fine quality.

Good sugar is likewise made by the use of Gadsden and Evans's evaporating pan, the cone de Limbec, &c.

Frequent attempts have been made to improve the quality of the sugar by the use of the sugar of lead in defecating the liquor previous to boiling. There can be no doubt that this agent has the property of throwing down a larger quantity of impurities in the expressed juice than any other at present in use. The objection to its general adoption is the difficulty of separating it from the clarified liquor. This desideratum is stated to be fully accomplished by those who consider that they have discovered the nccessary means to effect its thorough removal from the purified cane juice; while the opponents to its use are as positive in their belief that this deleterious agent is never completely removed by any known process, and affirm that traces of it may constantly be found in the sugar manufactured by such a process. However safe and practicable in a laboratory, under the hands of a skilful chemist, it is doubtful whether the administration of such a dangerous reagent could ever safely be entrusted to the management of ignorant negro sugar boilers.

The sugar cane contains in 100 parts :

Water, or juice	...	...	...	72 parts
Soluble matter	...	...	...	18 „
Woody fibre ...	...	...	...	10 „
				100

The amount of crystallisable sugar is 18 per cent., but the actual quantity obtained falls far short of this.

An acre of land has produced from 6000 to 8000 lbs. of sugar. The quantity of juice and soluble matter

extracted by the best machinery is from 50 to 60 per cent. The proportion of sugar contained in this juice varies according to the quality of the land, the season, the age, and general condition of the plants, and the process used in the manufacture. One ton of sugar is sometimes obtained from 1800 gallons of juice; the average quantity used may be estimated at 2400 gallons to yield the same quantity; while as much as 3600 gallons are sometimes required to give a similar amount. In the East Indies and Cuba 2800 lbs. of sugar is obtained on an average from as many gallons of liquor by Derosne's apparatus. This would give 1 lb. of sugar to the gallon of juice; in this colony the amount varies from $\frac{1}{2}$ lb. to $1\frac{1}{4}$ lb. per gallon.

The cost of preparing a ton of ordinary Muscovado sugar may be estimated at from 10*l.* to 12*l.* Its value, after deducting duties, freight, &c., at 16s. per cwt., is about 16*l.*, leaving a net profit of 4*l.* or 6*l.*

This quantity and profit may be taken as a moderate average of one acre of land. The price of sugar has fluctuated so much, and the uncertainty and cost of labour has been so great, that no reliance can be placed in the profitable cultivation of a sugar estate for any length of time. A small estate in this colony, or one yielding a return of one or two hundred hogsheads of sugar, does not pay; but it is nevertheless certain that an unencumbered estate, capable of making five or six hundred tons of good sugar, is an excellent investment of capital. The finer qualities of sugar, or that produced by the vacuum pan, afford a better return than the common Muscovado.

The manufacture of rum, by distillation from the skimmings of the sugar and other sweets, is too well known to require description. The processes at present in use on estates vary according to the taste or judg-

ment of the planters. Formerly rum, the produce of this colony, was not considered equal in quality to that exported by some of the other colonies, but of late years there has been a marked improvement in the spirit distilled, and it frequently realises as high a price in the English market as any other received.

An English chemist, Dr. Wilton Turner, who has spent much time in British Guiana, and who has especially devoted his great scientific knowledge to the improvement of the quality of the rum, is, I believe, generally allowed to have been very successful in the mode of distillation he adopts, and for which he has obtained from the legislature an ordinance to protect his patent.

PLANTAIN TREE.—(*Musa Paradisiaca.*)

The Plantain tree is perhaps one of the most useful plants found here. Independent of the beauty of its foliage, the rich broad green leaf, like velvet to the touch, is efficaciously employed in the dressing of blistered and ulcerated surfaces; and when these leaves are dried they make an admirable thatch, or serve exceedingly well for litter for the stable or cattle farm.

The stem of the plantain furnishes a large quantity of serviceable fibre,* from which good paper has been manufactured, some of which can be used for writing, and other kinds for wrapping goods. Excellent cloth and paper have been made at Paris from the plantain fibre.

The fruit is invaluable in a country which, raising no wheat, has to depend upon importations from foreign markets of this staff of life; but the plantain is

* From 3000 lbs. to 6000 lbs. of plantain fibre could be obtained annually from an estate of 400 acres, the value of which would probably be from 40*l.* to 43*l.* per ton.

an admirable substitute; it may be considered the bread of the tropics, and is much esteemed by the negroes, and even immigrants of all classes, who readily adopt the use of it. It grows very readily here, and is cultivated to a considerable extent; in former years almost every estate had its "plantain walk," which generally yielded sufficient for the population it contained.

The trees yield abundantly. A single plant has been known to yield a bunch of plantains weighing upwards of 100 lbs., but the average weight may be estimated from 20 lbs. to 35 lbs. The annual yield per acre of a plantain walk of average quality is about 450 bunches, weighing from 12,000 lbs. to 15,000 lbs., but as much as 20,000 lbs. have been obtained from one acre of land. From this quantity about one ton of an excellent starch, or meal, may be procured, but a much larger quantity could be obtained from a new or well-cultivated plantation. The plantain meal is the powdered fruit, after it has been stripped of the husk, dried, pulverised, and sifted; it is called here "Conquino Tay," or "Congo Tay;" it has a fragrant odour, and is of a yellowish brown colour. It is much used as food for children and convalescents, who relish and speak highly of it. It has been sent to Europe, and also to the Industrial Exhibitions of London, Dublin, and New York. According to Dr. Shier,* the accomplished agricultural chemist of this colony, who has analysed it, it is proved to be very nutritious, and "deserves a preference over all the pure starches, on

	Nitrogen per cent.	Proteine Compounds per cent.
* Plantain meal	... .88	5.45
Maize meal (unhusked)	... 1.73	10.72
Cassava meal (juice expressed)	... .36	2.23
Ditto ditto (the sliced and dried roots)	... .78	4.83

account of the proteine compounds it contains. "Full-sized and well-filled bunches give 60 per cent. of core to 40 per cent. of husk and top stem; but in general it would be found that the core did not much exceed 50 per cent., and the fresh core will yield 40 per cent. of dry meal, so that from 20 to 25 per cent. of meal is obtained from the plantain, or 5 lbs. from an average bunch of 25 lbs."

The sale of this meal at the price of arrowroot, or even at half the price, would ensure a handsome return per acre. The plantain is here commonly eaten either boiled or roasted; when stripped of its skin, boiled, and beaten in a wooden mortar, it makes a dense, firm mass, of greater consistency and toughness than the potato. In this state it is called "Foo foo" by the creoles, who, adding condiments and fish, or meat, consider it a great luxury. A good vinegar is prepared from the fermented fruit.

The Banana (Musa sapientum) is allied to the plantain, but although the fruit is sweeter and more luscious, it is not so nutritious; a bunch of bananas often contains from 160 to 180 fruits, weighing collectively from 70 lbs. to 80 lbs. From thirty to forty plants will grow in a space of little more than 1000 square feet. The fruit may be collected about ten months after the sucker has been planted. The stem yields a large proportion of excellent fibre, suitable to many of the purposes to which flax and hemp are applied.

Cotton.

Cotton was for many years the principal staple product of this colony, some notice of which has been taken in different parts of this work, and the reasons for its abandonment assigned. The indigenous cottons

of this country are very numerous, and the native Indians, the Macusis especially, have long been in the habit of cultivating the various species; they manufacture different sizes of spun cotton, and make several useful articles, such as aprons and hammocks, which latter are very strong, light, and durable. Some of the wild cotton met with has been much admired by competent judges, for their fine long staple and silky appearance, and specimens of cotton obtained from self-sown seeds, the remains of a cotton plantation abandoned nearly thirty years ago, were sent to the Great Exhibition of London, 1851, and had prizes awarded to the exhibitors. The cultivation of cotton was carried on to a very great extent on the coast lands of Berbice, Demerara, and Essequebo, as it was considered that the best cotton could not be advantageously grown at a greater distance than twenty miles from the sea; but this opinion is controverted by those who have had opportunities of seeing the fine specimens of wild cotton met with in the interior.

Cotton began to be exported from this colony in the year 1740. That cultivated in Berbice was the finest, and obtained the highest price in the English market. In the latter end of the year 1780 the prices of the cotton grown in the West Indies were as follows:

	s.	d.	
Berbice	2	1	per lb.
Demerara	1	11	„
Surinam	2	0	„
Cayenne	2	0	„
St. Domingo	1	10	„
Tobago	1	9	„
Jamaica	1	7	„

Coffee.

Coffee was cultivated in this colony as far back as the year 1721, when, its value and importance being recognised, as well as the suitableness of the soil for its growth, a great many plantations were laid out, and it was for a very long time almost the only staple of

Berbice and Demerara. The coffee trees were found to grow very well on the lands of the coast and rivers, but the indefatigable Dutch had the sagacity to find out that it grew equally well, if not better, in the hilly regions of the interior, and the traces of coffee plantations have been found by travellers about 40 leagues inland. Dr. Hancock* stated, that at a place called Ooropocary, about 120 miles up the river Essequebo, a coffee field, planted many years by the Dutch, and long since abandoned, was found to continue bearing in abundance, "nature alone, on this fertile soil, keeping up a reproduction of the trees."

There are at present a few plantations on which coffee bushes are still standing, and from which the berries are gathered when ripe by a few old and invalid people; the cost of good labour is too great to expend on the unremunerating berry, but nevertheless some care and attention is bestowed by a few proprietors of such estates as furnish the trees.

Maize, or Indian Corn.—(*Zea Mays*,)

Indian Corn, or Maize (Zea mays), grows very readily in this colony, and might be cultivated to a very great extent, but this is not the case, and the colonists are under the necessity of importing an expensive and often inferior article; the cause of this is the universal evil of this country, namely, the want of labour. It is occasionally grown on estates, and may be raised along with the young sugar cane, as it does not appear to injure the latter; as it grows much faster, the crop of corn could be taken off before the canes had attained to any size. In separate fields, two, and often three crops of corn may be raised in one year.

The Indians carry on the cultivation of this useful

* Observations on the Climate, Soil, and Productions of British Guiana.

plant, but in a very imperfect manner, and barely sufficient for their own moderate wants. It is grown by them on the high lands of the river Pomeroon, 110 miles distant from the sea, and in many other places perhaps much further inland. As many as twelve barrels of shelled corn may be easily obtained from an acre of land, with scarcely any culture, the labour of planting, occasional weeding, and gathering the corn alone being required, and demanding very little labour. The maize grown here commands a higher price in the colonial market than that imported from the United States of America. The maize raised by the Indians in the interior is considered superior in general to that grown on the coast lands. It appears to be indigenous in many parts of the colony, and no soil is better suited for its cultivation than that met with here.

Cassava.

The Cassava, or Cassada, of this country are of two kinds, and appears to be indigenous. The sweet cassava (Janipha loeflingii) is a common plant found in gardens, about plantations and villages, and on nearly every Indian settlement, where it is cultivated as a valued edible product. It is eaten roasted, or mixed with other food, and is called by the natives "Bussuli."

The Bitter Cassava (Janipha manihot) is likewise commonly found throughout the colony, and although a poisonous plant, is converted by simple means into a pleasant and nutritious article of food. The roots are cleansed, scraped, and grated upon a board studded with small sharp fragments of stone, somewhat like coarse sand, and fastened to it by a resinous substance. This simple kind of grater is called by the Indians "Simary." The grated pulp is next put into a long tube,

made of some kind of reed, generally the "Itirritti," and through this cassava squeezer, or "Matapi" as it is termed, the juice is pressed out by forcibly drawing or lengthening the tube, the sides of which contracting, presses powerfully upon the cassava pulp, and effectually squeezes out the bitter and poisonous juice. The meal, or cassaya flour, is then dried in the sun, or over the fire, sifted through the "Warrambi" sifter, made of the ita palm, and is subsequently made into large, flat, circular cakes, which are baked on iron plates, or by other means.

Good starch might be obtained from both the bitter and sweet cassava, although not so nutritious as the plantain and Indian corn meal; it would probably find a ready sale if carefully prepared and exported to Europe. It might be used alone, or mixed with wheat or barley flour. It has been estimated by Dr. Shier that about 10 tons of fresh roots could be obtained from one acre of properly cultivated land; this quantity would yield about $3\frac{1}{2}$ tons of meal, 539 lbs. of "cassareep," and 2 cwt. of starch.

At a moderate calculation, the prices likely to be obtained—namely, the meal at 1d. per lb., the cassareep at 1s. 5d. per lb., and the starch at 40s. per cwt. —would give 78*l.* 13s. 4d. as the gross amount derived per acre.

Cassareep,* called by the Indians "Cassaripo," is the inspissated juice of the bitter cassava root. It is the principal ingredient in the well-known West Indian dish "Pepper Pot," which, made of this useful sauce as the basis, and containing fish, flesh, and fowl, may, by moderate additions of cassareep, be kept good and wholesome for months, if not years. It is of a

* It is a powerful antiseptic, and is extensively used in making sauces, flavouring food, and preserving meat.

black colour, sweet taste, and of the consistence of syrup. It is prepared by boiling and evaporating the juice of the bitter cassava to a proper consistence. It is put into bottles by the Indians, who bring it to town, where it finds a ready sale at 2s. or more per bottle.

Rice.—(*Oryza Sativa.*)

The cultivation of Rice (Oryza sativa) is carried on to a very limited extent in this colony—indeed, it is only now and then that such a thing is heard of—and yet, without encroaching on the land at present laid out in sugar cultivation, there is abundance of territory admirably adapted to produce it. The specimens of rice grown in Berbice, Leguan, the rivers and creeks of the Essequebo and Poumeroon, have been remarkable for their size and beauty.

It is notorious that three crops can be obtained annually from one sowing, the new crop ratooning, or springing up from the old roots after each reaping. Indeed, it is related that an old colonist, Mr. Bielstein, who formerly cultivated this article on a small scale on the banks of the Lower Essequebo, raised repeatedly three crops in a year. The rice grown in the colony which I have seen was of admirable quality, and now that there is a large coolie population, who prefer rice to any other kind of food, it probably will be raised to greater extent than heretofore; indeed, the coolies have already commenced to raise it in small quantities in various parts of the colony, and as its cultivation could cover thousands of acres which are at present neglected, it is not improbable that if this class of labourers, as well as of the Chinese, continue to arrive in sufficient numbers, there will be more care and attention bestowed on its culture.

The quantity imported and consumed in the colony is already very large, but many cargoes brought here from the "East Indies" are forwarded or re-shipped to England, and prove remunerative.

A variety of spice and aromatic trees and plants are commonly found in this country, some of which might be turned to a better account than at present is the case. The Cinnamon tree (Laurus cinnamomum) was introduced here in 1772, and several of them are to be found on plantations and in gardens, where they grow luxuriantly. The bark and leaves afford a spicy flavour when bruised.

There are one or more species of wild cinnamon tree which are indigenous to this country, and which possess powerful aromatic properties, well known to, and appreciated by, the Indians and others.

The Nutmeg tree (Myristica moschata) has been found to grow very well in Trinidad, and would be sure to thrive in a soil and climate so suitable to its cultivation as that of Guiana. Indeed, some plants were lately introduced here, and, if I mistake not, are still flourishing in the grounds where they were placed. A species of wild nutmeg, accawai or waccakai nutmeg (Acrodiclidium camara), is indigenous to this colony; it is used by the natives as an efficacious remedy in disorders of the bowels.

Turmeric (Curcuma longa) grows commonly here, and is found to be superior in quality to the imported article.

The Ginger plant (Zingiber officinale) thrives exceedingly well in the colony; it is superior to that produced from the East, and both raw and preserved ginger are occasionally exported in small quantities.

The varieties of Capsicums, yielding the well-known Cayenne pepper, are astonishing; fine specimens, pre-

served in dilute acetic acid, have repeatedly been sent to Europe and America, and have been highly appreciated. They are met with in every garden, of various sizes, shapes, and colours, but are all pungent, and are much used and esteemed to flavour soups, meats, and other food.

Pickles, composed of capsicums, sliced papaw, mountain cabbage, shalots, French beans, are also prepared, and occasionally exported, or consumed in the colony.

The ordinary Pepper (Piper longum) is well suited to the soil of many parts of the country. It has already been cultivated in the neighbouring colony of Cayenne, whence it has been exported. The plant, a trailing vine, might be raised along with the nutmeg and spice trees, and yield as abundantly and profitably as in the Eastern Archipelago.

The Pimento, or Allspice (Pimenta vulgaris), is indigenous to South America, and, if necessary, might be successfully cultivated.

Cardamons and other aromatic plants thrive exceedingly well.

Cocoa.—(*Theobroma Cacao.*)

The Cocoa, or Cocao tree (Theobroma cacao), is found plentifully in this country, where it must have been imported many years ago. It yields numerous large nuts or pods, in which the seeds, from which cocoa is prepared, are found embedded in a kind of pulp. When separated from the husks, the seeds are dried, and the creoles of this colony prepare an excellent chocolate by pounding them, and working them up, with a little spice and other substances, in long rolls, which are carried about the streets for sale. With a little care and attention this important article of commerce, which is in such demand in England, and is chiefly in-

troduced from foreign countries, might be exported from British Guiana in considerable quantity. It appears to be a hardy tree, and, once planted, large forests might be grown, requiring little trouble to watch and protect them.

According to Humboldt, cocoa plantations in Spanish America are chiefly occupied by persons in humble circumstances, who prepare for themselves and their children a slow but certain fortune; one single labourer is sufficient to aid them in their plantations, and thirty thousand trees once established, assure competence for a generation and a half.

Guinea Corn, or Indian Millet (Sorghum vulgare), might be cultivated to a much greater extent than at present is the case. Samples of it have been sent to the Industrial Exhibitions in England and America, and it has been suggested as a green forage crop for other countries. There are several varieties of it met with here, known as the two-coloured, the drooping, the panicled yellow-seeded. The weight per bushel of the common "panicled millet" is about 68 lbs.

There is a great variety of useful species of the Bean and Pea tribes; indeed, almost any known kind of these vegetables may be made to grow in this country. In many gardens the French bean, the fig bean, the red beans, and numerous others, are abundantly raised; while equally common are pigeon peas, increase peas, the green peas, &c. The dried leaf of the pigeon pea tree (Cajanus indicus) infused in hot water, and flavoured with sugar and milk, makes an excellent substitute for the Chinese teas.

Besides these vegetables, the cabbage, the carrot, the cucumber, the lettuce, the parsley, radish, and other European esculents succeed very well.

Of tropical fruits and condiments there is no limit.

The pine-apple, the shaddock, oranges, and limes; the guava, the bell apple, the mango, the sabbadilla, the melon, the soursop, the grenadilla, the grape, and a hundred other luscious fruits, grow to great perfection.

Tobacco.—(*Nicotiana Tabacum.*)

The Tobacco plant (Nicotiana tabacum) is found growing wild in various parts of the colony, and appears to be indigenous to South America. It is commonly met with about the Indian villages in the interior, the plantations on the coast and rivers, and even about the roads and gardens of Georgetown. Samples procured from the natives have been found to equal in quality and flavour that exported from the Havannah. The leaves are large, and when simply dried in the air, can be manufactured into very good cigars. No attention, however, is paid to the cultivation of this important plant in this colony, although large quantities of leaf tobacco and cigars are annually imported for general consumption. The fresh leaves are occasionally employed by the creoles for medicinal purposes. If applied to the seat of pain, they often afford relief; but great caution is required in its use, for I have more than once known instances of poisoning to result from the indiscriminate and long-continued application of the leaves to inflamed and swollen legs. Tobacco was perhaps the first article of any importance cultivated by the early settlers in this colony. So early as the year 1600 mention is made of tobacco plants being found growing in abundance in the cleared lands, but its cultivation was not long persisted in, as it yielded to the production of more lucrative articles of commerce.

Plants yielding Starch.

The Starch-producing plants are numerous and valuable, and are found abundantly. An admirable report of them has been given by Dr. Shier in a small pamphlet.* The arrowroot (Maranta arundinacea) is a common plant, and furnishes a starch equal to that from any other part of the world. Specimens, the produce of this colony, have been already sent to Europe, and excited considerable attention. The arrowroot of this colony has been found to yield about 20 per cent. of starch. The sweet and bitter cassava furnish a still larger proportion, the former about 26 per cent., the latter about 24 per cent.; the common yam yields about 24 per cent.; and the Barbadoes yam about 18 per cent.; while the tannias, the buck yams, the plantain, the sweet potato, and the tous-les-mois, furnish from 15 to 18 per cent. The size of the globules is largest in the tous-les-mois; in the varieties of yams it varies from $\frac{1}{800}$ to $\frac{1}{1200}$ of an inch; in the arrowroot it is about $\frac{1}{1400}$ of an inch, and in the cassavas and tannias about $\frac{1}{4000}$ of an inch, nearly double that of wheat, while in the maize it is about $\frac{1}{3000}$ of an inch.

Plants yielding Dyes and Colours.

The number of plants capable of affording valuable dyes and colours is extensive, and, although neglected, might become an important branch of commerce.

The Indigo plant (Indigofera tinctoria) was formerly cultivated in this colony, but I am not aware that this is the case at present. It thrives well in a moist climate like this, and would be admirably suited for

* Report of the Starch-producing Plants of British Guiana. By Dr. Shier.

cultivation in the interior and elsewhere. The indigo formerly exported from South America was considered superior in quality to that produced in the East, but, like many other articles of equal value, its culture has been neglected in these latitudes.

The Arnotto dye, or Rocou plant (Bixa orellana), appears to be indigenous, and is the principal dye with which the Indians paint themselves red on the forehead, cheeks, and head, either for ornament or in accordance with the prevailing fashion. For this purpose small cakes are prepared, like coloured chalks, from the seeds, which are enclosed in rough pods.

The Lana tree (Genipa americana), a stately and handsome tree, furnishes a powerful black dye; if the flesh is stained with this pigment, it takes days, if not weeks, to remove it; the dye is yielded by the leaves and branches.

The Logwood tree (Hæmatoxylon campechianum) also grows here, and yields the well-known and useful extract.

Numerous other plants yield useful and beautiful colours, such as the common plantain (which furnishes a rich crimson pigment), the wild plantain, the mahoe or maho, the chica, the wild gamboge, the turmeric, the alligator pear seed, &c.

Oils, Gums, Resins.

Numerous valuable oils, gums, and resinous substances are obtained from many trees and shrubs.

The Crab tree (Carapa guianensis), a lofty tree, furnishes a rich and excellent oil, extensively used for the hair, and other purposes.

The Laurel oil tree (Laurus) yields a valuable oil, much prized as a useful medicine agent.

The Cocoa-nut tree (Cocos nucifera), independent of the other serviceable products it yields, furnishes a fine oil, much in demand for burning.

The Castor oil plant (Ricinus communis) is a handsome tree, with large leaves, commonly found in town and country; the oil expressed from the seeds is the well-known drug of the shops.

There are several trees in this country which yield varieties of the balsam copaiba of a superior quality, specimens of which have been forwarded to Europe.

Other valuable oils are procured from the Monkey Pot tree (Lecythis grandiflora), the "Wangala" (Sesamum orientale), the "Saouari" (Caryocar tomentosum), which also yields the delicious and well-known Saouari nuts; the Sand Box tree (Hura crepitans), the Butter tree (Caryocar butyrosum), the Tallow tree (Myristica sebifera), the Pitch tree (Icica guianensis), the Cocoa tree (Theobroma cacao), which furnishes the chocolate fat, or butter; the Tonkin bean (Dipterix odorata), the acuyuri Palm (Astrocaryum aculeatum), the cucurit Palm (Maximiliana regia).

Fine Gums are yielded from the Simiri, or Locust tree (Hymenæa courbaril), the Hyawa, or Incense tree (Icica heptaphylla), the Gum Elemi tree (Icica carana).

Resins are also procured from the Hya-Hya, or Milk tree (Tabernæmontana utilis), the Indian Rubber tree (Ficus elastica), the Acouchi (Icica aracouchini), Lignum Vitæ (Guiacum officinale), and species of Clusias, Amyris, Vismia, Humirium, and other trees.

PART II.

ALPHABETICAL List of some of the most common Trees and Plants met with in British Guiana.

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Acacia (several varieties)	Acacia	Fabaceæ
Acajou	Anacardium occidentale	Anacardiaceæ
Adam's apple	Citrus nobilis	Aurantiaceæ
Adam's needle	Yucca draconis	Liliaceæ
Adenanthera	Adenanthera	Fabaceæ
Ægiphyla	Ægiphyla	Verbenaceæ
Æschynomene	Agati grandiflora	Fabaceæ
Agati	Agati grandiflora	Fabaceæ
Agave viviparous	Agave vivipara	Amaryllidaceæ
Agave-Americana	Agave Americana	Amaryllidaceæ
Ageratum	Ageratum conyzoides	Asteraceæ
Akasee	Acacia tortuosa	Fabaceæ
Alligator pear	Persia gratissima	Lauraceæ
Alligator apple	Anona palustris	Anonaceæ
Alloplectus, crested	Alloplectus cristatus	Gesneraceæ
Almond tree (Indian ink)	Terminalia catappa	Combretaceæ
Aloes plant	Aloe vulgaris	Liliaceæ
Allspice tree	Pimenta vulgaris	Myrtaceæ
Alpinia	Alpinia nutans	Zingiberaceæ
American torch	Cereus monoclonos	Cactaceæ
Amaranth (several species)	Amaranthus	Amarantaceæ
Ammania	Ammania latifolia	Lythraceæ
American aloe	Agave Americana	Amaryllidaceæ
Angelonia violet	Angelonia salicariæfolia	Scrophulariaceæ
Anda acu	Anda gomesii	
Angosturo bark	Galipea cusparia	Rutaceæ
Arabian jasmine	Jasminum sambac	Jasminaceæ
Archangel (or Christmas bush)	Eupatorium odoratum	Asteraceæ
Aristolochia(several species)	Aristolochia	Aristolochiaceæ
Arnotto, or rocou	Bixa orellana	Flacourtiaceæ
Artichoke, Jerusalem	Helianthus tuberosus	Asteraceæ
Arrowroot (several species)	Maranta arundinacea	Marantaceæ
Aster, Chinese	Aster Chinensis	Asteraceæ
Aster pear		
Asparagus	Asparagus officinalis	Liliaceæ
Auricula	Primula auricula	Primulaceæ
Awara, or avoira		
Bachelor's button	Gomphrena globosa	Amarantaceæ
Bahama grass	Cynodon dactylon.	Graminaceæ
Bahama red wood	Ceanothus colubrinus	Rhamnaceæ
Balsam, or sea-side sage	Croton balsamiferum	Euphorbiaceæ
Balsam tree	Clusia flava	Clusiaceæ
Balsam of aconchi		
Balsam of umiri		
Balsam	Impatiens balsamania	Balsaminaceæ
Balsam (garden)	Justicia pectoralis	Acanthaceæ
Bamboo cane	Bambusa arundinaceæ	Graminaceæ
Banana tree	Musa sapientum	Musaceæ
Banisteria plant	Banisteria fulgens	Malpighiaceæ
Banisteria Fireburn bush	Banisteria fulgens	Malpighiaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Barbadoes bastard cedar	Cedrela odorata	Cedrelaceæ
Barbadoes cherry	Malpighia punicifolia	Malpighiaceæ
Barbadoes lilac	Melia azedarach	Meliaceæ
Barbadoes pride, or flower	Poinciana pulcherrima	Cæsalpinieæ
Barbadoes fence	Poinciana pulcherrima	Cæsalpinieæ
Barbadoes trumpet flower	Bignonia unguis	Bignoniaceæ
Basil (garden)	Ocimum basilicum	Lamiaceæ
Basket wyth	Tournefortia bicolor	Ehretiaceæ
Basket wyth, black	Rivina octandra	Phytolaccaceæ
Bastard ipecacuanha	Asclepias curassavica	Asclepiadaceæ
Bastard, or Santa Maria	Calophyllum calaba	Clusiaceæ
Bastard ockro	Malachra capitata	Malvaceæ
Batatas (several species)	Batatas	Convolvulaceæ
Bauhinia	Bauhinia superba	Fabaceæ
Bayberry tree	Eugenia acris	Myrtaceæ
Bay grape tree, or sea-side grape	Coccoloba uvifera	Polygonaceæ
Bay laurel, red	Persea Carolinensis	Lauraceæ
Bearded fig tree	Ficus laurifolia	Moraceæ
Beans (several species)	Phaseolus vulgaris	Fabaceæ
Bell pepper	Capsicum annuum	Solanaceæ
Bell apple, or simitou	Passiflora laurifolia	Passifloraceæ
Belly-ache, or wild cassava	Adenoropium gossypifolium	Euphorbiaceæ
Bergamotte tree	Citrus limetta	Aurantiaceæ
Berrybush	Solanum igneum	Solanaceæ
Bermuda cedar	Juniperus Bermudiana	Pinaceæ
Bent grass	Agrostis indica	Graminaceæ
Birch, or turpentine tree	Bursera gumnifera	Amyridaceæ
Bird pepper	Capsicum	Solanaceæ
Bitter wood, or bitter ash	Quassia amara	Simarubaceæ
Bindweed	Convolvulus maximus	Convolvulaceæ
Bignonia (Chamberlayne's)	Bignonia æquinoctialis	Bignoniaceæ
Bignonia (trumpet flower)	Bignonia leucoxylon	Bignoniaceæ
Blackbead tree, or Bahama red wood	Ceanothus colubrinus	Rhamnaceæ
Black cherry	Prunus occidentalis	Drupaceæ
Black nicker (soap tree)	Sapindus saponaria	Sapindaceæ
Black sage bush	Varronia currassavica	Cordiaceæ
Black willow	Capparis torulosa	Capparidaceæ
Bloodworth	Sisyrinchium latifolium	Iridaceæ
Blue eddoes	Caladium sagittæfolium	Araceæ
Blue vine	Clitoria ternatea	Fabaceæ
Bonnet, or bonny pepper	Capsicum tetragonum	Solanaceæ
Bontia (wild olives)	Bontia daphnoides	Myoporaceæ
Bread-fruit tree	Artocarpus incisa	Artocarpaceæ
Bread-nut tree	Artocarpus nucifera	Artocarpaceæ
Bread and cheese	Paullinea cururu	Sapindaceæ
Brocoli	Brassica botrytis	Brassicaceæ
Broom weed	Corchorus siliquosus	Tiliaceæ
Brownea	Brownea coccinea	Fabaceæ
Bully tree	Bumelia nigra	Sapotaceæ
Burgrass	Cenchrus eschinatus	Graminaceæ
Burbark	Triumfelta semitriloba	Tiliaceæ
Bush rope		
Butterfly plant	Gongora maculata	Orchidaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Button tree	Conocarpus erectus	Combretaceæ
Button sage	Lantana involucrata	Verbenaceæ
Butter tree		
Bulrush	Typha tenuifolia	Typhaceæ
Bitter blain		
Birambi		
Birch gum	Bursera gummifera	Amyridaceæ
Bidens, or Spanish needles	Bidens pilosa	Asteraceæ
Boxwood	Phyllanthus nutans	Euphorbiaceæ
Bromelia	Bromelia karatus	Bromeliaceæ
Brazil nuts	Berthollitia excelsa	Lecythidaceæ
Bonny vis (several species)	Lablab vulgaris	Fabaceæ
Bastard supple jack	Paullinia cururu	Sapindaceæ
Cabbage tree (said to be introduced from Barbadoes)	Areca vel oreodoxa oleracea	Palmaceæ
Cabbage tree (bastard)		Palmacæ
Cabacalli		
Calabash tree	Crescentia cujete	Crescentiaceæ
Caladium (several species)	Caladium	Araceæ
Calalue	Basella cordifolio	Basellaceæ
Calavance, or red bean	Dolichos sinensis	Fabaceæ
Callamato tree, or smooth star-apple	Chrysophyllum glabrum	Sapotaceæ
Calliopsis	Colliopsis bicolor	Asteraceæ
Callisia	Callisia repens	Commelynaceæ
Candle wood	Chiococca racemosa	Cinchonaceæ
Calotropis	Calotropis procera	Asclepiadaceæ
Campeachy wood	Hæmatoxylon campechianum	Cæsalpiniceæ
Camara, or ackawari nutmeg	Acrodiclidium camara	Lauraceæ
Candlenut tree	Stillingia sebefera	Euphorbiaceæ
Candy tuft	Iberis umbellata	Brassicaceæ
Canna, or Indian shot	Canna indica	Marantaceæ
Canoe plant	Calosanthes indica	Bignoniaceæ
Canella, or winter's bark	Canella alba	Guttiferæ
Canuballi		
Capparis	Capparis	Capparidaceæ
Cape jasmine	Gardenia fragans	Cinchonaceæ
Cape jasmine	Gardenia florida	Cinchonaceæ
Capsicum pepper (several species)	Capsicum	Solanaceæ
Cacao	Theobroma cacao	Byttneriaceæ
Carrahurri		
Carana		
Carrot	Daucus carota	Apiaceæ
Carata	Agave vivipara	Amaryllidaceæ
Carnation	Dianthus caryophyllus	Caryophydaceæ
Carolinea, digitated	Carolinea princeps	Sterculiaceæ
Cascarilla		
Cashew tree, or cachou	Anacardium occidentale	Anacardiaceæ
Cassava, or cassada bitter	Janipha manihot	Euphorbiaceæ
" " sweet	Janipha loeflingii	Euphorbiaceæ
Cassia, fistula tree	Cassia fistula	Fabaceæ
Castor oil plant	Ricinus communis	Euphorbiaceæ
Cat's blood	Rivina humilis	Phytolaccaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Cat's claws	Dolichos filiformis	Phytolaccaceæ
Cathartica (willow leaved)	Allamanda cathartica	Apocynaceæ
Cat mint	Nepita cataria	Lamiaceæ
Cauliflower	Brassica botrytis	Brassicaceæ
Cedar wood	Cedrela odorata	Cedrelaceæ
Cedar (bastard)	Cedrela odorata	Cedrelaceæ
Celery	Apium graveolens	Apiaceæ
Cenchrus	Cenchrus tribuloides	Graminaceæ
Cephalic vine	Convolvulus speciosus	Convolvulaceæ
Cerbera, or French willow	Cerbera thevetia	Apocynaceæ
Cereus (night blooming)	Cereus glandiflorus	Cactaceæ
Cestrum (night smelling)	Cestrum nocturnum	Solanaceæ
„ (laurel leaved)	Cestrum laurifolium	Solanaceæ
Changeable rose	Hibiscus mutabilis	Malvaceæ
Chau stick	Gouania domingensis	Rhamnaceæ
Chereeze, or Barbadoes cherry (several species)	Malpighia punicifolia	Malpighiaceæ
Cherry pepper	Capsicum cerasiforme	Solanaceæ
Chick stone tree	Guilandina bandoe	Fabaceæ
Chickweed	Holosteum cordatum	Caryophyllaceæ
Chigery grape tree	Coccolaba nivea	Polygonaceæ
Chigery bush	Tournifortia volubilis	Ehretiaceæ
Chinese rose hibiscus	Hibiscus rosa sinensis	Malvaceæ
Chives	Allium schænoprasum	Liliaceæ
Choco vine	Sechium edule	Circurbitraceæ
Chocolate nut tree	Theobroma cacao	Byttneriaceæ
Christmas bush	Eupatorium odoratum	Asteraceæ
Christophine	Sechium edule	Cucurbitaceæ
Chrysanthemum	Pyrethrum sinense	Asteraceæ
Cinnamon tree	Laurus cinnamomum	Lauraceæ
Circassian bead tree	Adenanthera lavonina	Mimoseæ
Cissus, or poison wyth	Cissus sicyoides	Vitaceæ
Clary wild	Heliotropium parviflorum	Ehretiaceæ
Clerodendron	Clerodendron siphonanthus	Verbenaceæ
Clove pink	Dianthus caryophyllus	Caryophyllaceæ
Clove tree	Caryophyllus aromaticus	Myrtaceæ
Cocco plum	Chrysobabanus icaco	Chyrsobalanaceæ
Cocoa nut tree	Cocos nucifera	Palmaceæ
Cochineal tree	Opuntia coccinellifera	Cactaceæ
Cock's comb	Celosia cristata	Amarantaceæ
Coffee tree	Coffea arabica	Cinchonaceæ
Coffee wood	Palicourea pavetta	Cinchonaceæ
Commelina	Commelyna communis	Commelynaceæ
Conch apple, or conch nut	Passiflora maliformis	Passifloraceæ
Convolvus (several species)	Convolvulus bona nox	Convolvulaceæ
Coot weed	Crotalaria lotifolia	Papilionaceæ
Coral tree (bean tree)	Erythrina corallodendrom	Fabaceæ
Cordia (several species)	Cordia collococca	Cordiaceæ
Cord leaf		
Coreopsis	Coreopsis reptans	Asteraceæ
Corn, Indian	Zea mays	Graminaceæ
Corn tree	Adansonia digitata	Sterculiaceæ
Cork wood		
Cosmos	Cosmos bipinnatus	Asteraceæ
Cotton (several species)	Gossypium arboreum	Malvaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Conbacalli		
Conrahana		
Courraballi		
Courcororue		
Coulaballi		
Cowitch vine	Mucuna pruriens	Fabaceæ
Cow pop	Physalis angulata	Solanaceæ
Cow tree		
Cowhage cherry	Malpighia urens	Malpighiaceæ
Crab bush (sea-side)	Heliotrophium gnaphateides	Ehretiaceæ
Crab bush (laurel)	Carapa guianensis	Lauraceæ
Crab's-eye vine	Abrus precatorius	Fabaceæ
Crab, or oil nut tree	Carapa guianensis	Lauraceæ
Crinum	Crinum Americanum	Amaryllidaceæ
Crocus	Crocus vernus	Iridaceæ
Crossandra	Crossandra	Acanthaceæ
Crotolaria (several species)	Crotolaria	Fabaceæ
Croton	Caperonia palustris	Euphorbiaceæ
Cuamar		
Cucullaaia		
Cuckoldr's increase	Dolichus unguiculatus	Fabaceæ
Cucumber	Cucumis sativus	Cucurbitaceæ
Cuphæa	Cuphea melvilla	Lythraceæ
Curida tree	Avicennia nitida	Myoporaceæ
Custard apple	Anona reticulata	Anonaceæ
Cyclamen (common)	Cyclamen Europæum	Primulaceæ
Cynanchum	Cynanchum mucronatum	Asclepiadaceæ
Cyperus	Cyperus compressus	Cyperaceæ
Dahlia (varieties)	Dahlia variabilis	Asteraceæ
Damacen, or callimato smooth star-apple	Chrysopyllum glabrum	Sapotaceæ
Damson tree, or star-plum	Chrysophyllum monopyrenum	Sapotaceæ
Dart wood	Ixora fasciculata	Cinchonaceæ
Date tree	Phœnix dactylifera	Palmaceæ
David's rost	Chiococea racimosa	Cinchonaceæ
Desmoduim (wood sorrel)	Desmodium repens	Papilionaceæ
Devil's grass (bahama grass)	Cynodon dactylyon	Graminaceæ
Dog's grass	Poa ciliaris	Graminaceæ
Dog wood (prickly randia)	Gardenia randia	Cinchonaceæ
Dove weed	Euphorbia maculata	Euphorbiaceæ
Downy (mountain ebony)	Bauhinia tornentosa	Fabaceæ
Dragon's blood	Dracaena ferrea	Liliaceæ
Drooping leaved (Adam's needle)	Yucca acuminata	Liliaceæ
Duck weed (large)	Nymphæa blanda	Nymphæaceæ
Duck weed (broad)	Nelumbium jamaicense	Nelumbiaceæ
Ducalibali		
Dumb cane	Caladium sequinum	Araceæ
Dutch grass	Eleusina Indica	Graminaceæ
Dwarf hibiscus	Hibiscus phæniceus	Malvaceæ
Ducalli		
Determa		
East India Mango tree	Mangifera Indica	Anacardiaceæ
Echites	Echites torosa	Apocynaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Eddoes nut	Caladium sagittæfolium	Araceæ
Eddoes wasting	Macrorrhizum caladium	Araceæ
Eddoes, or eddas (several species)	Caladium esculentum	Araceæ
Egg plant	Solanum melongena	Solanaceæ
Eta palm	Mauritia flexuosa	Palmaceæ
Eranthemum	Eranthemum bicolor	Acanthaceæ
Epidendrum (several sp.)	Epidendrum	Orchidaceæ
Elder tree	Sambucus nigra	Caprifoliaceæ
Elder bush	Piper aduncum	Piperaceæ
Evergreen tree	Ficus nitida	Moraceæ
Fan palm	Thrinax parviflora	Palmaceæ
Fennel	Fæniculum vulgare	Apiaceæ
Fiddle wood tree	Citharexylon cinereum	Verbenaceæ
Fig	Ficus carica	Moraceæ
Fish poison		
Fit weed	Eryngium fætidum	Apiaceæ
Flower fence	Cæsalpinia pulcherrima (volkameria aculeata)	Fabaceæ
Forbidden fruit tree	Citrus buxifolia	Aurantiaceæ
Four o'clock	Mirabilis dichotoma	Nyctaginaceæ
Franchipan	Plumieria rubra and alba	Apocynaceæ
French guava	Psidium pyreferum	Myrtaceæ
French physic nut tree	Jatropha multifidum	Euphorbiaceæ
French willow	Cerbera thevitia	Apocynaceæ
French calalue	Caladium	Araceæ
Fuchsia	Fuchsia coccinea	Onagraceæ
Fustic tree	Maclura tinctoria	Moraceæ
Galineta wood	Bumelia salicefolia	Sapotaceæ
Garden balsam	Justicia pectoralis	Acanthaceæ
Garlic	Allium sativum	Liliaceæ
Garlic pear tree	Cratæva gynandra	Capparidaceæ
Geranium (several species)	Geranium sanguineum	Geraniaceæ
Germinating leaf plant	Bryophollum calycinum	Crassulaceæ
Ginger	Zingiber officinale	Zingiberaceæ
Ginger grass	Panicum latifolium	Graminaceæ
Golden apple	Spondias dulcis	Anacardiaceæ
Gomarrow		
Gongora (several species)	Gongora	Orchidaceæ
Gooseberry shrub	Pereskia aculeata	Cactaceæ
Gourd vine	Lagenaria vulgaris	Cucurbitaceæ
Granadilla vine	Passiflora quadrangularis	Passifloraceæ
Grape fruit tree	Citrus hystrix	Aurantiaceæ
Grass silk	Agave Americana	Amaryllidaceæ
Great corn, or Indian maize	Zea mays	Graminaceæ
Great mackau tree	Acrocomia sclewcarpa	Palmaceæ
Grey nicker	Guilandina bonvucella	Fabaceæ
Ground nut	Arachis hypogæa	Fabaceæ
Greenheart (several species)	Nectandria rodiæi	Lauraceæ
Guaco (several species)	Aristolochia	Aristolochiaceæ
Guava tree	Psidium pomiferum	Myrtaceæ
Guinea grass	Panicum jumentorum	Graminaceæ
Guinea corn	Sorghum vulgare	Graminaceæ
Guinea pepper		
Gum tree	Stillingia sibefera	Euphorbiaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Gum elemi		
Gum anime tree, or locust tree	Hymenæa courbaril	Leguminosæ
Hackia		
Hairy cerasee	Momordica charantia	Cucurbitaceæ
Heliotrope (several species)	Heliotropium	Ehretiaceæ
Hercules wood		
Hevarree		
Hibiscus (several species)	Hibiscus	Malvaceæ
Hiaballi		
Hog plum tree	Spondias lutea	Anacardiaceæ
Hog slip, or hog vine	Convolvulus umbellatus	Convolvulaceæ
Hog weed	Boerhavia diffusa	Nyctaginaceæ
Holy thorn, or royal cashiaw	Parkinsonia aculeata	Cæsalpinieæ
Holly hock	Althea rosa	Malvaceæ
Honey berry	Melicocca bijuga	Sapindaceæ
Honey suckle	Lonicera flava	Caprifoliaceæ
Hoobaballi		
Hop shrub	Dodonæa viscosa	Sapindaceæ
Hop weed (wild)	Malachra capitata	Malvaceæ
Hop weed (white)	Hyptis suaveolens	Lamiaceæ
Horse eye bean	Mucuna urens	Fabaceæ
Horse nicker	Guilandina bonduc	Cæsalpinieæ
Horse radish tree	Moringa pterygosperma	Moringaceæ
Huwassi		
Hucouyæ, or iron wood		
Hya-hya, or milk tree	Tabernæmontana utilis	Euphorbiaceæ ?
Hy-jarri, or Hai-ari (fish poison)		
Hydrangeæ (changeable)	Hydrangea Hortensia	Hydrangeaceæ
Hyaua gum tree	Icica heptaphylla	Amyridaceæ
Hyauaballi		
Hymakusi		
Increase tree	Dolichos unguiculatus	Fabaceæ
Indian creeper (Indian pink)	Ipomea quamoclit	Convolvulaceæ
Indian kale	Caladium nymphæfolium	Araceæ
Indian rubber	Ficus elastica	Moraceæ
Indian shot	Canna Indica	Marantaceæ
Indigo plant	Indigofera anil	Fabaceæ
Ink vine	Passiflora suberosa	Passifloraceæ
Ipecacuanha (wild)	Asclepias curassavica	Asclepiadaceæ
Ipomea (several species)	Ipomea	Convolvulaceæ
Iron wood		
Itaka wood		
Itaballi		
Itikiribouraballa		
Iuriballi		
Ivy (Madeira)	Ficus stipulata	Moraceæ
Ixora	Ixora coccinea	Cinchonaceæ
Jaca tree	Artocarpus integrifolia	Artocarpaceæ
Jack in a box	Harmandia sonora	Thymelaceæ
Jamaica birch tree	Bursera gummifera	Amyridaceæ
Jamaica plum (Spanish)	Spondias lutea	Anacardiaceæ
Jasmine	Jasminum	Jasminaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Jasmine tree	Plumieria rubra	Apocynaceæ
Jerusalem thorn	Parkinsonia aculeata	Cæsalpinieæ
Job's tears	Coix lachryma	Graminaceæ
Justicia (scarlet flowered)	Justicia coccinea	Acanthaceæ
Justicia (blue flowered)	Eranthemum nervosum	Acanthaceæ
Kamakasa	Unknown	
Kamacusack	Unknown	
Kartaballi	Unknown	
Karman tree	Unknown	
Karman tree (Mami tree)	Unknown	
Kakaralli	Unknown	
Kerria	Unknown	
Keinarsanacasa	Unknown	
King of flowers	Lagerstromia Indica	Lythraceæ
Kretti	Unknown	
Koftssa	Unknown	
Kurara	Unknown	
Kuracurara	Unknown	
Kucahara	Unknown	
Kurahara	Unknown	
Lady of the night	Cestrum nocturnum	Solanaceæ
Lady's pepper	Capsicum	Solanaceæ
Lana tree	Bixa orellana	Flacourtiaceæ
Lance wood (Jarri jarri)		
Laurel oil	Laurus	Lauraceæ
Laurel (several species)	Laurus	Lauraceæ
Leadwort	Plumbago rosea	Plumbaginaceæ
Lime bergamotte	Citrus limetta	Aurantiaceæ
Lime tree	Citrus lima	Aurantiaceæ
Lupin (several species)	Lupinus	Fabaceæ
Leather coat tree	Coccoloba pubescens	Polygonaceæ
Lemon grass	Andropogan schœnanthus	Graminaceæ
Lettuce	Lactuca sativa	Asteraceæ
Letter wood		
Leaf plant	Bryophyllum calcynum	Crassulaceæ
Lignum vitæ	Guaiacum officinale	Zygophyllaceæ
Lily, red	Amaryllis equestris	Amaryllidaceæ
Lily, white	Pancratium caribæum	Amaryllidaceæ
Lily, water		Amaryllidaceæ
Lily, tiger	Tigridia pavonia	Amaryllidaceæ
Lily, Surinam	Crinum Americanum	Amaryllidaceæ
Lima bean	Phaseolus perennis	
Limonia, or lime myrtle	Citrus lima	Aurantiaceæ
Loblolly tree	Oreodaphne leucoxylon	Lauraceæ
Locust tree	Hymenæa courbaril	Fabaceæ
Logwood, or campeachi	Hæmatoxylon campechianum	Fabaceæ
Long John	Triplaris Americana	Polygonaceæ
Love in a mist	Passiflora fœtida	Passifloraceæ
Macaw tree	Acrocomia sclerocarpa	Palmaceæ
Mahoe	Hibiscus elatus	Malvaceæ
Madeira ivy	Ficus stipulata	Moraceæ
Madagascar periwinkle	Vinca rosea	Apocynaceæ
Mahogany tree	Swietenia mahagoni	Cedrelaceæ
Maiden hair	Urtica microphylla	Urticaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Maize	Zea mays	Graminaceæ
Malabar nut	Gendarussa adhatoda	Acanthaceæ
Malacca shambu	Myrtus?	Myrtaceæ?
Mammee apple, or sapote	Lucuma mammosum	Sapotaceæ
Mammee tree, or wild apricot	Mammea Americanum	Clusiaceæ
Manchineel tree	Hippomane mancinella	Euphorbiaceæ
Mangostan, or mangosteen	Garcinia mangostana	Clusiaceæ
Mango tree	Mangifera indica	Anacardiaceæ
Mangrove tree	Rhizophora mangle	Rhizophoraceæ
Mangrove, white	Conocarpus acutifolius	Combretaceæ
Maran, or Copaiba tree	Copaifera officinalis	Fabaceæ
Marica	Marica	Iridaceæ
Mastick tree	Bumelia mastichodendrum	Sapotaceæ
May pole	Agave Americana	Amaryllidaceæ
Melon	Cucumis melo	Cucurbitaceæ
Menow weed	Ruellia tuberosa	Acanthaceæ
Mespel, or medlar	Blakea triplinerva	Melastomaceæ
Milk tree (sea-side)	Euphorbia glabrata	Euphorbiaceæ
Mimosa	Desmanthus virgatus	Fabaceæ
Mint (several sp.)	Mentha	Labiatæ
Moabite (four-leaved inga)	Inga unguis cati	Fabaceæ
Mocco-mocco	Arum arborescens	Araceæ
Money bush	Acacia	Fabaceæ
Monkey apple tree	Anona palustris	Anonaceæ
Monkey's bread tree (or boabat)		
Monkey's hand	Heckeria peltata	Piperaceæ
Monkey's peas	Dolichos luteus	Fabaceæ
Monkey's pot	Lecythis grandiflora	
Montabba	Solanum melongena	Solanaceæ
Mora tree (the King of)	Mora excelsa	
Moraballi	Ditto ditto	
Mulberry	Morus	Moraceæ
Mudar plant	Asclepias gigantea	Asclepiadaceæ
Murivaana		
Musk bush, or wild ockro	Hibiscus esculentus	Malvaceæ
Musk melon	Cucumis melo	Cucurbitaceæ
Mustard	Sinapis niga	Brassicaceæ
Myrtle (several sp.)	Myrtus Belgica	Myrtaceæ
Nem-nem (or toothache tree)	Acacia horrida	Papilionaceæ
Negro pepper	Capsicum conordeum	Solanaceæ
Nettle	Urtica	Urticaceæ
Nickers (oval leaved)	Guilandina bonduc	Fabaceæ
Night-blooming cereus	Cereus grandiflorus	Cactaceæ
Night-blooming convolvulus	Ipomea bona nox	Convolvulaceæ
Night shade	Datura stramonium	Solanaceæ
Noyeau vine	Ipomea sinuata	Convolvulaceæ
Nutmeg tree	Myristica moschata	Myristicaceæ
Nutmeg	Acrodiclidium camrara	Lauraceæ
Nut eddoes tamers	Caladium sagittæfolium	Araceæ
Nut grass	Cyperus esculentus	Cyperaceæ
Ockra, or ockro	Hibiscus esculentus	Malvaceæ
Old man's beard		
Old maid, or Cayenne jasmine	Vinca rosea	Apocynaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Old woman's bitter.	Citharexylon cinereum	Verbenaceæ
Oleander, common	Nerium oleander	Apocynaceæ
Oleander (or sweet-scented rose bag)	Nerium odorum	Apocynaceæ
Olive pepper	Capsicum cerasiforme	Solanaceæ
Onion, common	Allium cepa	Liliaceæ
Orange tree	Citrus Aurantium	Aurantiaceæ
Orange, Seville or bitter	Citrus bigaradia	Aurantiaceæ
Orchids (several sp.)		Orchidaceæ
Orinoque tree (coral or red bean tree)		Fabaceæ
Otaheite apple	Spondias Dulcis	Anacardiaceæ
Otaheite gooseberry	Cicca districha	Euphorbiaceæ
Ourysoury		
Ox-eye bean	Mucuna urens	Papilionaceæ
Pacuri		
Palm oil tree	Elais guineenses	Fabaceæ
Papaw ockro	Corchorus Austrians	Tiliaceæ
Papaw, or melon tree	Carica papaya	Papayaceæ
Parsley	Petrosalinum sativum	Apiaceæ
Pea	Pisum sativum	Fabaceæ
Penguin	Bromelia karattas	Bromeliaceæ
Peppers	Capsicum annum	Solanaceæ
Petrea	Petrea volubilis	Verbenaceæ
Petunia (several sp.)	Petunia violacea	Solanaceæ
Peruvian cotton	Gossypium Peruvianum	Malvaceæ
Physic nut tree	Jatropha curcas	Euphorbiaceæ
Pigeon pea tree	Cajanus flavus	Fabaceæ
Pimento, Jamaica pepper	Eugenia pimenta	Myrtaceæ
" or allspice	Pimenta vulgaris	Myrtaceæ
Pimploes	Opuntia tuna	Cactaceæ
Piaba		
Pindals, or ground nuts	Arachis hypogæa	Papilionaceæ
Pine apple	Ananassa sativa	Bromeliaceæ
Pink	Dianthus Chinensis	Caryophyllaceæ
Pink potato (cassine drink)		
Potatoes, sweet	Convolvulus batatas	Convolvulaceæ
Pink roet	Spigelia anthelmintica	Loganiaceæ
Pitch tree	Amyris guianensis	Amyridaceæ
Plantains	Musa paradisiaca	Musaceæ
Plantain tree	Musa paradisiaca	Musaceæ
Plantain water, round leaved	Pontederia rotundifolia	Pontederaceæ
Plantain, great	Pontederia	Pontederaceæ
Plumieria (several species)	Plumieria rubra	Apcynaceæ
Plumbago	Plumbago rosea	Plumbaginaceæ
Poison tree	Sapium aucuparium	Euphorbiaceæ
Pomegranate	Punica granatum	Myrtaceæ
Pond grass, or canker weed	Commelyna communis	Commelynaceæ
Pond weed	Alisma cordifolium	Alismaceæ
Pontederia	Pontederia azurea	Pontederaceæ
Pope's head	Melocactus communis	Cactaceæ
Pop vine	Physalis barbadensis	Solanaceæ
Prickly pear	Opuntia tuna	Cactaceæ
Prickle yellow wood	Xanthoxylon clava	Xanthoxylaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Prickly argemone, or poppy	Argemone mexicana	Papaveraceæ
Prickly pear vine	Cereus trigonus	Cactaceæ
Prickly yam vine	Dioscorea aculeata	Dioscoreaceæ
Pritti		
Pricardy		
Purple coco, or taniers	Caladium Sagittæfolium	Araceæ
Purple inga, or soldier wood	Inga purpurea	Mimoseæ
Pye crust	Jacquinia armillaris	Myrsinaceæ
Purslane	Portulaca sativa	Portulaceæ
Purple heart	Copaifera pubiflora	Fabaceæ
Pumpkin	Cucurbita pepo	Cucurbitaceæ
Queen of flowers	Lagerströma reginæ	Lythraceæ
Quassia	Quassia amara	Simarubaceæ
Rabbit vine	Teramnus uncinatus	Papilionaceæ
Radish	Raphanus oblongus	Brassicaceæ
Randia	Randia mussænda	Cinchonaceæ
Rata pepper, or rata ochro	Corchorus hirtus	Tilliaceæ
Rattle bush	Crotalaria incana	Papilionaceæ
Red cherry tree	Malpighia glabra	Malpighiaceæ
Red mangrove tree	Rhizophora mangle	Rhizophoraceæ
Red wood	Coccoloba barbadensis	Polygonaceæ
Red yam	Dioscorea alata	Dioscoreaceæ
Reed	Panicum arundinaceum	Graminaceæ
Red cedar		
Rhizophora	Rhizophora	Rhizophoraceæ
Rice	Oryza sativa	Graminaceæ
Rice grass	Panicum molle	Graminaceæ
Ringworm bush	Cassia alata	Cæsalpinieæ
Roasting cassava	Manihot janipha	Euphorbiaceæ
Roasting eddoes	Caladium macroerhizum	Araceæ
Roses (several species)	Rosa	Rosaceæ
Rose of Sharon	Hibiscus rosa sinensis	Malvaceæ
Rose apple	Eugenia jambosa	Myrtaceæ
Rosemary	Rosmarinus officinalis	Lamiaceæ
Rosewood	Amyris balsamifera	Amyridaceæ
Roucow, or arnotto	Bixa orellana	Flacourtiaceæ
Russelia	Russelia juncea	Scrophulariaceæ
Rush	Scirpus geniculatus	Cyperaceæ
Sage	Salvia officinalis	Lamiaceæ
Sage black	Varronia curassavica	Cordiaceæ
Sage white	Lantana involucrata	Verbenaceæ
Sago	Cycas	Cycadeaceæ
Saka		
Sambo	Cleome pentaphylla	Capparidaceæ
Sandbox tree	Hura crepitans	Euphorbiaceæ
Sand mora		
Santa Maria tree	Calophyllum calaba	Clusiaceæ
Santa Maria leaf	Heckeria umbellata	Piperaceæ
St. Domingo mignionette		
St. John's bush	Psychotria nervosa	Cinchonaceæ
St. John's wort	Hypericum calycinum	Hypericaceæ
Sapodilla tree	Achras sapota	Sapotaceæ
Sarcostemma	Sarcostemma swartzianum	Asclepiadaceæ
Sarsaparilla (several species)	Smilax	Smilaceæ
Savannah grass	Paspalum conjugatum	Graminaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Savine tree, or bastard iron wood	Xanthoxylon Pterota	Xanthoxylaceæ
Scammony, wild	Ipomea maritima	Convolvulaceæ
Scoparia	Scoparia dulcis	Scrophulariaceæ
Screw pine	Pandanus odoratissimus	Pandanaceæ
Sea-side balsam	Croton balsamiferum	Euphorbiaceæ
Sea-side grape	Coccoloba uvifera	Polygonaceæ
Sea-side laurel	Xylophylla falcata	Euphorbiaceæ
Sea-side lavender	Heliotropium gnaphaloides	Ehretiaceæ
Sea-side samphire	Sesurvium portulacastrum	Tetragoniaceæ
Sea-side vine	Convolvulus Braziliensis	Convulvulaceæ
Securidaca, climbing	Securidaca volubilis	Polygalaceæ
Senna tree, or wild senna	Cassia emarginata	Fabaceæ
Sensitive plant	Desmanthus virgatus	Fabaceæ
Sesbanea	Sesbania occidentalis	Fabaceæ
Sesuvium	Sesuvium portulacastrum	Tetragoniaceæ
Seville orange tree	Citrus bigaradia	Aurantiaceæ
Shaddock tree	Citrus pompelmos decumanus	Aurantiaceæ
Shaki-shaki (several sp.)	Crotolaria	Fabaceæ
Shallots, common	Allium vulgaris	Liliaceæ
Shell plant	Alpinia nutans	Zingiberaceæ
Sida (several sp.)	Sida	Malvaceæ
Silberdani		
Silk cotton tree	Bombax ceiba	Sterculiaceæ
Silk grass	Agave vivipara	Amaryllidaceæ
Silverwood tree	Unknown	
Siraballi	Unknown	
Siriba	Unknown	
Simaruba	Unknown	
Simatou	Passiflora serrata	Passifloraceæ
Sisyrinchium	Sisyrinchium latifolium	Iridaceæ
Slonea		
Snake gourd		
Snake nut tree	Ophiocaryon parodoxicum	Sapindaceæ
Snake wood trumpet tree	Cecropia peltata	Artocarpaceæ
Snap dragon	Ruellia tuberosa	Acanthaceæ
Soap tree, or Soap berry tree	Sapindus saponaria	Sapindaceæ
Solandra	Solandra grandiflora	Solanaceæ
Soldier bush	Tournefortia volubilis	Ehretiaceæ
Soldier wood	Inga purpurea	Fabacea
Sorghum (several sp.)	Sorghum	Graminaceæ
Sorrel (several sp.)	Hibiscus sabdariffa	Malvaceæ
Sour grass	Paspalum conjugatum	Graminaceæ
Sour orange tree	Citrus bigaradia	Aurantiaceæ
Sour sop tree	Anona muricata	Anonaceæ
Sour sop tree, sweet	Anona squamosa	Anonaceæ
South Sea rose	Nerium odorum	Apocynaceæ
Spanish ash	Lonchocarpus violacens	Fabaceæ
Sparrow grass	Asparagus officinalis	Liliaceæ
Spear mint	Mentha viridis	Lamiaceæ
Spermacoce	Spermacoce	Cinchonaceæ
Spider wort	Tradescantia	Commelynaceæ
Spikenard	Hyptis suaveolens	Lamiaceæ
Spinach (Virginian)	Phytolacea decandra	Phytolaccaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Spirit weed	Ruellia tuberosa	Acanthaceæ
Spurge	Pedilanthus tithymaloides	Euphorbiaceæ
Squashes	Cucurbita melopepo	Cucurbitaceæ
Stachys	Stachys circinata	Lamiaceæ
Star apple (several sp.)	Chrysophyllum	Sapotaceæ
Star plum	Chrysophyllum monopyrenum	Sapotaceæ
Stinking weed	Cassia occidentalis	Fabaceæ
Strawberry pear	Cereus trigonus	Cactaceæ
Sugar apple tree (several sp.)	Anona squamosa	Anonaceæ
Sugar bean	Phaseolus lunatus	Fabaceæ
Sugar cane	Saccharum officinale	Graminaceæ
Sugar cane (Bourbon)	Saccharum Bourboni	Graminaceæ
Sugar cane (Otaheite)	Saccharum Otaheite	Graminaceæ
Sugar cane (violet or purple)	Saccharum	Graminaceæ
Sugar cane (black)	Saccharum	Graminaceæ
Sun flower	Helianthus annuus	Asteraceæ
Supple Jack		
Suari, or Suwarro nut	Caryocar tomentosum	Rhizobolaceæ
Surodanni		
Surinam cherry		
Sweet basil	Ocimum basilicum	Lamiaceæ
Sweet briar	Acacia tortuosa	Fabaceæ
Sweet cassava	Janipha loeflingii	Euphorbiaceæ
Sweet heart	Desmodium supinum	Fabaceæ
Sweet lime	Citrus limetta	Aurantiaceæ
Sweet-scented birthwood		
Sweet William	Quamoclet vulgaris	Convolvulateæ
Sweet wood tree	Faramea odoratissima	Cinchonaceæ
Tabernæmontana, rose bay-like	Tabernæmontana coronaria	Apocynaceæ
Tabernæmontana, laurel leaved	Tabernæmontana laurifolia	Apocynaceæ
Table tree	Terminalia catappa	Combretaceæ
Tabucushi		
Taccuba		
Tatabo		
Tallow tree	Myristica sebifera	Myristicaceæ
Tamarind tree	Tamarindus indica	Fabaceæ
Taniers, or nut eddoes	Caladium sagittæfolium	Araceæ
Teak wood	Tectonia grandis	Verbenaceæ
Terminalia, or Indian almond tree	Terminalia catappa	Combretaceæ
Thespesia	Thespesia populnea	Malvaceæ
Thistle, or rabbit weed	Sonchus ciliatus	Asteraceæ
Thorn apple, common	Datura stramonium	Solanaceæ
Thorn apple, blue	Datura tatula	Solanaceæ
Thorn apple, arborescent	Datura arborea	Solanaceæ
Thunbergia, twining	Thunbergia fragrans	Acanthaceæ
Thunbergia, yellow flowered	Thunbergia alata	Acanthaceæ
Thyme	Thymus vulgaris	Lamiaceæ
Tiger lily	Tigridia pavonia	Iridaceæ
Tobacco, Virginian	Nicotiana tabacum	Solanaceæ
Tobacco, wild	Baccharis odorata	Asteraceæ
Tonka bean	Dipteryx odorata	Fabaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Tomatos (love apple)	Lycopersicum esculentum	Solanaceæ
Toothache tree	Acacia horrida	Fabaceæ
Torch tree	Amyris	Amyridaceæ
Tous-les-mois (several sp.)	Canna achiras	Marantaceæ
Tournefortia	Tournefortia volubilis	Ehretiaceæ
Tree, cotton	Gossypium arboreum	Malvaceæ
Tree of life	Thuja occidentalis	Pinaceæ
Triopteris	Triopteris jamaicensis	Malpighiaceæ
Trumpet flower	Cordia sebestena	Cordiaceæ
Trumpet flower, equinoctial	Bignonia leucoxylon	Bignoniaceæ
Trunk tree, or trumpet tree	Cecropia peltata	Artocarpaceæ
Trinidad butterfly plant	Orchis	Orchidaceæ
Tuberose	Polianthes tuberosa	Liliaceæ
Tulip (wild)	Crinum zeylanicum	Amaryllidaceæ
Turk's head	Melocactus communis	Cactaceæ
Turmeric	Curcuma longa	Zingeberaceæ
Turnip	Brassica rapa	Brassicaceæ
Turnsole, or wild clary	Heliotropium parviflorum	Ehretiaceæ
Turiballi		
Tysle bark tree		
Turkey berry tree		
Turpentine tree	Bursera gummifera	Amyridaceæ
Urari, or wourali poison		
Urari vine		
Vanglo, or sesame	Sesamum orientale	Pedaliaceæ
Vanilla	Vanilla planifolia	Orchidaceæ
Victoria lily	*Victoria reginæ*	Liliaceæ
Vine	Vitis vinifera	Vitaceæ
Vinca	Vinca	Apocynaceæ
Vervain (several species)	Stachytarpheta	Verbenaceæ
Wadaduri		
Wakenaam, lilac	Jacaranda rhombifolia	Bignoniaceæ
Wallaba tree	Eperua falcata	
Waremia		
Waracouri		
Wamara		
Waike		
Wangala	Sesamum orientale	
Washeba (bow wood)		
Water lemon	Passiflora laurifolia	Passifloraceæ
Water vine, or water withy		
Water melon	Cucumis citrullus	Cucurbitaceæ
Water shields		
Wax plant	Hoya carnosa	Asclepiadaceæ
West India tea (brown weed)	Capraria biflora	Schrophulariaceæ
White cedar tree		
White sage	Lantana involucrata	Verbenaceæ
White willow	Capparis breynia	Capparidaceæ
White celery	Apium graveolens	Apiaceæ
Wild ipecacuanha	Asclepias curassavica	Asclepiadaceæ
Wild calabash tree	Cestrum laurifolium	Solanaceæ
Wild cassava	Adenoropium gossypifolium	Euphorbiaceæ
Wild coffee	Palicourea pavetta	Cinchonaceæ
Wild clove, or bay myrtle	Eugenia acris	Myrtaceæ
Wild liquorice	Abrusprecatorius	Fabaceæ

ALPHABETICAL List of Trees, &c.—*continued.*

VERNACULAR NAME.	BOTANICAL NAME.	CLASSIFICATION.
Wild orange		
Wild ochro	Malachra capitata	Malvaceæ
Wild olive tree, or bastard cabbage bark	Andira inermis	Fabaceæ
Wild pine	Yucca draconis	Liliaceæ
Wild tamarind	Cassia	Fabaceæ
Wild tobacco	Baccharis odorata	Asteraceæ
Wild tulip	Crinum zeylanicum	Amaryllidaceæ
Wild water lemon		
Wild wormwood	Parthenium hysterophorus	Asteraceæ
Wild fig tree		
Wild plantain		
Worm seed weed	Chenopodium anthelminticum	Chenopodiaceæ
Wourali, or ourali	Strychnos toxifera	Loganiaceæ
Yams (several species)	Dioscorea	Dioscoreaceæ
Yam bush	Dioscorea	Dioscoreaceæ
Yam guinea	Dioscorea	Dioscoreaceæ
Yarri yarri		
Yaruri (paddle wood)	Aspidospermum excelsum	Apocynaceæ
Yarrinara		
Yellow Hercules	Xanthoxylon ochroxylon	Xanthoxylaceæ
Yellow plum	Spondias lutea	Anacardiaceæ
Yellow nicker	Guilandina bonduc	Fabaceæ
Yellow thistle	Argemone mexicana	Papaveraceæ
Yellow silbuballi	Unknown	
Youraballi	Unknown	

PART III.

ALPHABETICAL List of Hardwood and other useful Timber Trees indigenous to British Guiana.

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
1	Abuckka-danni...	...	...	Hardwood; useful for framing.
2	Acouri-broed, or sandhill green-heart	30 to 40	36 to 45	The wood is useful for frames, boards, and planks.
3	Acuyuri palm(Astrocaryum aculeatum)...	20 to 30	20 to 30	The outside part of stem takes a fine polish, and is used for cabinet work and walking-sticks. The seed of the fruit yields a fine oil.
4	Acuyari (Icica altissima)	50 to 60	80 to 120	The wood is used for canoes, bookcases, &c. *See* Red Cedar.

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth. in Inches.	REMARKS.
5	Akaraki	...	...	Hardwood.
6	Alsouroo	...	...	A close and fine grained wood.
7	Amooroo	...	...	Strong and elastic wood, good for spars and beams.
8	Anapaima	...	...	A close grained wood, abounding in the rocky districts; the bark is aromatic, and is used by the Indians in fever and dysentery.
9	Annedein	...	...	A furniture wood.
10	Aradani	...	...	Hardwood.
11	Arawica	...	...	Furniture wood.
12	Aroumatta	30 to 40	24 to 27	The wood makes good planks.
13	Arnatto, or roucou (Bixa orellana).	...	...	Furnishes an excellent dye, used by the Indians and others.
14	Arrakadaca	...	...	Hardwood.
15	Assepoca	...	...	Hardwood.
16	Awasaculi	...	...	Hardwood.
17	Avocado pear (Persea grattissima)	...	...	A useful wood; the fruit is known as the alligator pear, and is much esteemed.
18	Bangeo, or ebony	20 to 30	12 to 14	Is plentiful—squares from 8 to 10 inches. The tomahawk, or Indian war-club, is made of it. It is strong and durable.
19	Bannia, or ebony	...	...	Useful as furniture wood.
20	Baramalli, or pump-wood	45 to 50	30 to 36	Good for staves of sugar casks.
21	Bartabally	30 to 50	30 to 40	Tough, strong, and much like ash; excellent for masts of sloops and schooners, yards and topmasts of ships, oars, handspikes, and cask staves.
22	Bastard bully tree, or tourneira	40 to 50	48 to 60	Useful for plank and framing timber; requires careful seasoning. Is plentiful throughout the colony.
23	Beridany	...	...	May be used instead of cedar.
24	Bisi	50 to 60	...	This tree grows to a great size; its wood is very durable, and is used by the Indians for canoes; it yields a resin of a greenish colour, which can be used as a varnish.
25	Bloodwood	30 to 40	20 to 30	Plentiful, and is useful for sugar cask staves.
26	Bully tree, bourawa, bullet, or burueh (Mimusops ?)	30 to 60	36 to 60	Excellent for house frames, plank, mill timber, shingles, gun-carriages, platforms, spokes, &c.; squares from 20 to 30 inches. Abundant in some places; found plentifully in Berbice and elsewhere.
27	Cabacalli, or kabacally	30 to 40	36 to 48	There are two kinds met with, the red and white—both plentiful; the red is good furniture wood, is useful for gun-carriages, resists the salt-water worm (owing to a bitter prin-

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
				ciple) for several years, and affords crooked timbers and planks for ship-building. The white kind is inferior, and is seldom used.
28	Cabbage tree (Oreodoxa oleracea)	60 to 70	20 to 40	The bark and branches useful for many purposes.
29	Calabash tree (Crescentia cujete)	10 to 15	12 to 18	Can be used as furniture wood. The gourds are much used as drinking or eating vessels.
30	Camara, or tonka. *See* No. 48.	...	...	A very hard, tough, and durable wood; the tree yields the famous tonquin bean.
31	Cannella (Canella alba)	...	...	Hardwood; the bark useful for medicinal purposes.
32	Canuballi, or canoumaballi	40 to 50	36 to 40	Useful for spars for colony craft; tall and straight like birch.
33	Carica	...	...	The wood contains a useful dye.
34	Carrahurri, or curahuri	...	...	Can be used as furniture wood.
35	Carra-seri, or black lancewood	...	...	A strong and elastic wood.
36	Cassia (Cassia fistula	40 to 50	36 to 54	The wood forms good boards; the pulp of the pods is eaten.
37	Cedar tree, or curana, two kinds, red and white (Icica altissima)	50 to 60	80 to 120	Plentiful in the interior; useful for boards and planks for every purpose; the white kind (warracoura) is used for oars and spars; the red for cabinets, book-shelves, &c.
38	Coolicishiri	...	...	Hardwood.
39	Coffee tree	...	...	Hardwood; yields the coffee berry.
40	Coorarunikira	...	...	Hardwood.
41	Corucororue	30 to 40	30 to 36	Is very plentiful, and might be extensively used for cask staves.
42	Courmaruballi	...	...	A tough wood of small size.
43	Couraharrah, or kurraharrah	30 to 40	36 to 40	Useful for frame boards and planks, housework, and small boats. Is rather scarce.
44	Couracooruli	...	...	Hardwood.
45	Couriaballi, or coriabally	40 to 50	36 to 40	Is more serviceable than American white pine for boards and planks.
46	Courida	60	...	Hardwood.
47	Coutaballi	30 to 40	...	Hard and durable, unless much exposed: makes good beams. It will square 12 inches.
48	Cuamara, or Tonkin bean, or gomorrow (Dipteryx odorata)	50 to 60	72 to 90	The wood well adapted for shafts, mill-wheels, or cogs. Bean aromatic, and used for scenting snuffs.
49	Crab wood, or caraba (Carapa guianensis)	30 to 40	30 to 60	Grows tall and straight; yields a valuable oil; useful for house frames, boarding, planks, spars, vats, &c. There are two kinds, red and white. It takes a high polish. It squares from 14 to 16 inches.

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
50	Cucadi	...	...	A tough and durable wood.
51	Curbacalli	...	...	Can be used as furniture wood.
52	Cucullaria.....	...	...	
53	Cururuburari.....	...	...	Hardwood.
54	Doori	...	...	Hardwood.
55	Ducalaballi.....	30 to 50	30 to 40	Tough, strong, and much like ash: useful for masts and spars, oars, handspikes, and staves.
56	Ducally	...	...	Grows tall and straight; makes good boards.
57	Determa	30 to 60	...	Excellent wood for ships' masts, spars, beams, planks, &c.
58	Etoure.....	...	...	Has similar properties to wallaba.
59	Eturewice	...	...	Hardwood.
60	Fucaddi	...	...	A soft but tough wood.
61	Gomarrow. *See* Cuamara.....	...	...	
62	Greenheart, or sipiri; three kinds, black, brown, yellow (Nectandra rodiæi)	40 to 80	36 to 70	The black greenheart is the best: the wood of all is excellent for mill timber, house frames, bridge or stelling piles, &c. A cubic foot weighs 75 lbs., Dutch weight. A very strong and durable wood, much in demand in Europe. It squares from 18 to 24 inches.
63	Guava (wild).....	...	...	The wood is used for gun-stocks, and has every appearance of being a good dye-wood.
64	Hactria	12 to 20	24 to 40	The wood resembles lignum vitæ in everything but smell, and can be applied to the same purposes.
65	Hercules wood	...	...	Hardwood.
66	Hiaballi	...	...	A light brown wood with black stripes; excellent for furniture.
67	Hicka	...	...	Hardwood.
68	Hoobaballi, or Hubabally, or Surinam snakewood	20 to 40	36 to 70	A beautiful wood, of a light red colour, variegated with black and brown streaks. It is easily worked, takes a high polish, and is much used in the manufacture of furniture.
69	Hoobudie, or ubudi, or wild cashew	...	...	Wood used for inside work.
70	Hooriwassa, or soap wood	30	...	Hardwood. Root and bark used as soap.
71	Hucoriya, or iron wood	40 to 50	...	A hard, tough wood, but not very durable if much exposed; it is therefore chiefly used for inside work. It is of a reddish colour, which deepens with age.
72	Huwarree, or hurawassa, or soap tree (Sapindus saponaria)	30 to 40	36 to 54	Makes good boards and heading for casks: the roots and bark are used by the Indians as soap.

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
73	Huwassi.....	...	...	
74	Hya-hya, or milk tree.....	...	...	Hardwood; the juice yields caoutchouc
75	Hyawaballi (Icica heptaphylla) ...	40 to 60	...	The hyawa, or incense tree; furnishes a valuable gum. The wood is sound and buoyant.
76	Hymakussi	...	...	Hardwood.
77	Hymoracushi.....	...	...	Hardwood.
78	Hyriballi itaballi, or ita palm? (Mauritia flexuosa)	30	...	Hardwood. The wood and leaves used for building and thatching.
79	Itiririboura balli, or tiger wood (Machærium schomburgkii)..	30 to 40	18 to 50	This wood is of a rich brown colour, spotted with black and brown streaks, like a tiger's skin. It squares from 12 to 16 inches; makes good boards for inside work.
80	Itikiboura	...	...	
81	Kakaralli, or cockaralli	30 to 40	24 to 30	There are two varieties of this wood, the brown and the white. Much used for stellings and bridges. It possesses a bitter principle, which prevents barnacles from attaching themselves to it. It is also used for staves and planks.
82	Kamakasa	...	...	Hardwood.
83	Kamacusack	...	...	Hardwood.
84	Kartaballi	...	...	Hardwood.
85	Kerla	...	...	Hardwood.
86	Kewarroo-cusi ...	...	...	A hardwood of a bright yellow colour.
87	Kimaasamasa.....	...	...	Hardwood.
88	Kofassa	...	..	
89	Koquerette balli ...	20 to 30	...	This wood forms excellent rafters and beams.
90	Kretti, or bastard silverbally	...	...	Useful for boards and planks.
91	Kucahara	...	...	
92	Kuracurara	...	...	
93	Kurahara	...	...	
94	Kurara, or courara	40 to 50	24 to 30	The wood furnishes crooked beams and planks for schooners.
95	Lana	40 to 50	36 to 40	Plentiful, and answers the same purpose as American white pine. The wood is close grained, and not liable to split. A valuable dye is procured also from this tree.
96	Lance wood, or yarri yarri	20 to 25	6 to 12	This tree supplies good shafts and poles for carriages; also handspikes.
97	Lara-coo-sana, or bastard yaruri .	...	...	Hardwood stem, with broad fluted projections.
98	Laurel tree (Laurus).....	...	...	Hardwood; there are several species, some of which furnish a valuable oil.
99	Letter wood, or bourra courra, or Brazil wood	30 to 40	36 to 40	The tree yielding this wood is of large size; but the greater part is unserviceable. The centre part, or

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
				heart, yield the beautiful letter wood, which is so much admired for furniture and cabinet work.
100	Locust tree, or simiri, two kinds, red and white Hymenæa (courbaril)	40 to 100	36 to 100	This magnificent tree furnishes a hard and compact wood, of a fine brown colour, streaked with veins, and well adapted for mill timbers, planks, and cabinet work. It is easily worked, and answers the purpose of American oak; a fine resin (gum anime) exudes from the roots, and resembles gum copal. The pod contains edible matter. The Indians make canoes of the bark.
101	Logwood (Hæmatoxylon campechianum)	20	...	Hardwood. This tree yields the well known dye.
102	Mammee tree (Mammea americana)	...	...	Furniture wood.
103	Mama tree	50 to 60	30 to 36	The wood of this tree has been found useful for staves and frames.
104	Manie, or manne.	...	...	Wood, hard, used for staves.
105	Mangrove	...	...	
106	Manniballi, or candle wood ...	30	...	Makes good framing wood, and yields a useful kind of wax.
107	Mansiballi, or accouribroed	30 to 40	...	This tree is plentiful, and is chiefly used for spars.
108	Masaranuni	...	...	
109	Mora (Mora excelsa)	50 to 120	20 to 90	This valuable timber tree resembles the English oak. It grows abundantly in sandy regions. It is tough, close grained, and durable. It is much used for ship and boat-building. There are several varieties, viz., the red, the white, and the brown. It squares from 18 to 20 inches. Found plentifully about the river Barima.
110	Morabally	40 to 50	30 to 40	The wood of this tree is found useful for framing.
111	Morabuci	...	...	Hardwood.
112	Murwaana	...	...	A furniture wood.
113	Myrtus	...	...	Hardwood.
114	Orange (Citrus aurantium).....	...	...	Furniture wood.
115	Ourysoury	20 to 30	18 to 24	Rather a scarce tree. Bears a nut like an oyster, the expressed juice of which is useful in medicine.
116	Pacuri.....	50 to 60	45 to 70	A sound and durable wood; useful for flooring and planks.
117	Pricady	40 to 60	30 to 40	An excellent wood for house frames, boards, and planks.
118	Pritti	...	...	Hardwood.

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
119	Purple heart, or courabarilla, or mariwayana (Copaifera pubiflora, or bracteata)	30 to 70	36 to 60	This term has been applied to several varieties of trees, but the wood of all is much alike. It possesses great strength and elasticity, and is much used for house frames, mills, and wharves. It is from the tree, called by the Indians Mariwayana, that the light canoe, so well known here as a woodskin, is prepared by stripping off the entire bark. Useful for mortar beds, on account of its admirable resistance to the shock of artillery discharges.
120	Putty	30 to 40	12 to 20	A straight and handsome tree, which furnishes good boards, staves.
121	Rosewood	...	...	Furniture wood.
122	Saka, or bastard purple heart	...	...	The wood is used by cabinet-makers for furniture.
123	Sallebarroo	...	...	A curious flat bush rope.
124	Saouwarri, saouari, or sewarri nut (Caryocar tomentosum)	30 to 50	48 to 72	This tree yields the delicious saouari nut. The timber is valuable for boats, bridges-planking, mills. It squares from 16 to 20 inches.
125	Silbadani	20 to 30	24 to 42	This tree furnishes a beautiful wood, prettily variegated with black, brown, purple, and yellow. It is found useful for flooring, partitions.
126	Silverballi, sirubally, or siruaballi (Nectandra)	30 to 70	20 to 60	This name is given to four varieties of trees, known as the black, brown, yellow, and white. The two first are the longest trees. The wood of the black kind is similar in properties to ebony. The brown kind is used for boards and planks. The yellow kind resembles letter wood, and contains a bitter principle. The white is good for inside work. The wood generally is light, and floats readily. It is much sought after by boat-builders. Squares from 10 to 14 inches.
127	Sirebadany	10 to 20	30 to 40	There are two varieties of this wood: the red and the white, or pale. Both kinds are highly valued as furniture wood.
128	Simarupa, or simaruba (Simaruba officinalis)	40 to 60	36 to 60	The timber of this tree is serviceable for frames, boards, and planks.
129	Siridani	...	...	Used as furniture wood.
130	Siruba	...	...	A large tree, which furnishes good ship timber.
131	Slonea	...	...	Hardwood.
132	Sunwood	...	...	The tree which produces this useful furniture wood is rather scarce.

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
133	Suradanni, or dalina	30 to 40	36 to 82	Much used for ship timbers, rails, naves, and wheels. Made also into canoes by the Indians. There are two kinds, the red and the pale.
134	Taccuba	...	...	This tree is found in the high lands and among the falls. It is strong, hard, and durable. It resembles the washiba or bow wood, but is not so elastic.
135	Tataba, or detaba	40 to 60	36 to 100	There are two kinds, the brown and the yellow. The timber resembles the teak, and is useful for mill shafts, rollers, and wheels.
136	Tabiecushi	...	...	Can be used as furniture wood.
137	Tamarind	...	...	Furniture wood.
138	Torch tree	25 to 30	18 to 24	As implied by the name, the wood of this tree is used by the Indian for torches in hunting and fishing.
139	Tooroo palm	50 to 60	...	Its woody outside is used by the cabinet-makers for inlaid work, walking-sticks, and billiard cues.
140	Turanira, touranero, or bastard bully tree	...	...	*See* No. 22.
141	Turiballi, uriballi, or eurebally, or Guiana mahogany	....	...	Furniture wood. A large tree, which yields a wood excellent for wardrobes and other things, as insects will not attack it.
142	Wadaduri, or Wadadura, or monkey-pot tree (Lecythis grandiflora	...	...	This wood is plentiful, and is used for furniture staves. Hardwood.
143	Waike.....	...	...	Furniture wood.
144	Wallaba (eperua falcata)	40 to 50	42 to 82	A hard, durable wood of a red colour, which splits freely, and contains an oily resin; it is found excellent for shingles and staves.
145	Wamara, brown ebony, or club-wood	50 to 60	...	This wood is hard and cross-grained; the Indians make their war-clubs of it.
146	Waracouri	...	...	Hardwood.
147	Waranara	...	..	Hardwood.
148	Waremia.....	20 to 40	...	A soft wood, which grows to a large size.
149	Washeba, bow-wood, or wasceba.....	50 to 66	36 to 90	A hard and durable wood, useful for mill timber; it is used by the Indians for their war and hunting bows.
150	Wiaballi.....	...	...	Hardwood.
151	Wild olive	...	...	Furniture wood.
152	Wild onion, or coopa	...	...	A large parasitic plant, whose seeds have a strong flavour of garlic.

List of Hardwood and Timber Trees, &c.—*continued.*

No.	NAME.	Height in Feet.	Girth in Inches.	REMARKS.
153	Wild orange, or waranana	30 to 40	...	Furniture wood. Easily worked; makes good beams and spars.
154	Wild nutmeg	...	...	Hardwood.
155	Wild spice	...	...	Hardwood.
156	Wooraliballi	...	...	A hard and cross grained red wood, which is very scarce.
157	Yarri-yarri, or lancewood Dugnetia quitarensis).....	15 to 20	...	A small and slender tree, the wood of which possesses much toughness and elasticity, and is used for gig shafts. The Indians make their arrow points of it.
158	Yaruri, yarooroo, or paddle-wood (Aspidosperma excelsa)	50 to 60	36 to 48	There are two kinds, the yellow and white; the former resembles beech, and is useful for planes and tool-handles; the white was found serviceable for cotton-gin rollers. The Indians make their paddles of the fluted projections of the trunk.
159	Youraballi	...	...	A small but strong tree, used for the pin by which timber is hauled out of the bush.

N.B. Besides the foregoing, there are numerous other valuable timber trees which are in common use among the wood-cutters, but their names and qualities are unknown to me.

PART IV.

PLANTS OF BRITISH GUIANA.

Arranged according to the classification of Professor Lindley.*

THE CRYPTOGAMOUS, OR FLOWERLESS PLANTS.

Class I.—*Thallogens.*

In the classification of plants according to the "Natural System" of Botany, the lowest forms of vegetable organisation have been grouped into a class called "Thallogens;" that is, flowerless plants, whose

* In the classification the species have not been grouped in genera, neither as a general rule have the synonyms been given.

stems and leaves are undistinguishable. Great confusion and difficulty have existed among botanists in describing the specimens belonging to it, in consequence of the minute and obscure structure of most of them; the extremes of animal and vegetable life approach so closely, that it is not always easy to define the exact limits which separate them, and it has happened that what were formerly considered plants, have now been ascertained to be in reality animals, low in the scale of nature, while occasionally the converse has obtained, so that revision and alterations are constantly being made in the arrangement of these humble species.

Thallogens comprise the following alliances:

1st. Algales, or Seaweeds.

2nd. Fungales, or Mushrooms.

3rd. Lichenales, or Lichens.

Numerous species belonging to the several alliances of this class are to be met within British Guiana.*

The Algales, or Seaweeds, are sufficiently known, and are to be found in seas, rivers, and other waters. They may be seen floating about, or resting like scum in pools of stagnant water, and their organisation ascends from the simplest to the most complex state.

The Fungales, or Mushrooms, are also pretty well known, and flourish from the parasitical fungi (mouldiness) observable upon bread and other substances, to the more perfect structure of the esteemed truffle and champignon.

The Lichenales, or Lichens, are commonly seen on the surface of rocks, trees, as well as on the earth, and occur in irregular patches of various colours and size.

* Reisen in British Guiana.

ALGALES.

Odontidium hyemale v. fragilaria hyemale
Cymbosira agardhii
Odontella polymorpha
Nostoc litorale
Lyngbya putealis
Schizodictyon purpurascens
Conferva fluviatilis
Ectocarpus spinulosus
Ulva intestinalis
Batracho-spermum monilifonne
Polysiphonia subtilissima
Lomentaria impudica
Delesseria leprieurii

LICHENALES—LICHENS.

Usnea strigosa
" australis
Ramalina linearis
" rigida
Sticta quercizans
" exampliata
" dissecta
Parmelia sinuosa
" perlata
" obsessa
" applanata
" peltita
" pannosa
" pallescens
" gyrosa
Collema agureum
" schomburgkianum
" linkii
Cladonia ecmozyma
" carneo—badia
" cocomia
" macilenta
" ceratophylla
" coccinea
" pityrea
" carnea
Biatoria vernalis
" vestita
" russula
" tuberculosa
Lecidea albovirens
" imbricata
" corticola
" brebssonii
Ustalia gracilis
" anguina
" flammula
Lecanactis serograpta
" lobata
Opegrapha prosodea
" ovata
" acharii
" rimulosa
Opegrapha myrico-carpa
" scripta
" angustata
" leprieurii
Fissurina nivea
" radiata
" insculpta
" grammitis
Graphis virginea
" pavoniana
" afzelii
" illinata
Medusala tricosa
" olivacea
" fulva
Glyphis labyrinthica
" favulosa
Sagedia compuncta
Pertusaria verrucosa
" leucostrictâ
Thelotrema platystomum
" atratum
" olivaceum
Pyrenastrum americanum
" macrospermum
" album
" eustomum
Verrucaria tropica
" prostrans
" cinchona
" thelena
" catervaria
" planorbis
" melanophalma
" analepta
" nitens
" myriocarpa
" marginata
" aspistea
Verrucaria micramma
" variolosa
" ochroleuca
" cinnamonea
" chionea
" porinoides
" nitida
" complanata
" leucostoma
" heterochroa
Astrothelium sepultum
" concinnum
Trypethelium sprengelii
" sphaerioides
" cruentum
" platistomum
" annulare
" leprieurii
" porosum
" pyrenuloides
" megaspermum
" madreporiforme

Fungales—Mushrooms.

Agaricus tenellus
" musæ
" striatus
" cancrinus
" campestris
" reniformis
Coprinus aster
" extinctorius
" molybdites
" fimetarius
Lentinius fumigatus
" nigripes
" villosus
" sajor caju
" pilosus
" crinitus
" ochraceo-fuscus
" schomburgkii
" velutinus
" strigosus
Meruleus castaneus
" miquelii
" cuneiformis
Schizophyllum commune
" exiguum
Lenzites interrupta
" repanda
Polyporus agaricus
" rhizomorpha
" xanthophus
" guianensis
" heteromorphus
" longipes
" leprieurii
" sanguimeus
" auriscalpium
" spathulatus
Polyporus aculeatus
" lignoides
" iodinus
" villosus
" fomentarius
" verucculosus
" australis
" fimbriatus
" striatus
" feei
Polyporus vaporarius
" surinamensis
" nitidus
Trametes hydnoides
" fibrosa
Dædalea splendens
" rhabarbarina
Favolus braziliensis
Thelephora speciosa
" liliputiana
Stereum elegans
" surinamensis
" reniforme
" chartaceum
Clavaria fastigiata
" tubulosa
" fistulosa
" delicata
Exidia auricula
Peziza tricholoma
" heteromera
Hysterium rufulum
Stictis psycotriæ
Sphæria kegeliana
" multifida
" pileiformis
" melanopsis
" heterostoma
" microsticha
" conostoma
" quisquiliarum
" calyculus
" pseudo-bombarda
" megalaspora
" raphidosperma
" oedema
" trachodes
" sanguinea
" episphaeria
" mammaeformis
Dothidea ropalina
" euglypta
Meliola musae
" furcata
" cymbisperma
Asteroma labecula
Acospora phymatoides
Phoma mauritiæ
Antennaria tropica

Class II.—*Acrogens.*

From the rudimentary organisation which characterised the plants of the former class, we pass on to consider those whose structure is more complicated.

The term Acrogens has been applied to flowerless

plants, but whose stems and leaves are distinguishable. This class includes three alliances:

1st. Muscales, or Mosses.

2nd. Lycopodales, or Clubmosses and Pepperworts.

3rd. Filicales, or Ferns.

The species belonging to the several alliances of this class vary much in size and general appearance, but they may generally be known by their possessing stomates, or breathing pores, and by their reproductive organs, called spores, which are small bodies like ordinary seeds, which are placed on the organs representing the leaves. Acrogens are in general small plants, but in ferns they attain a large size, the larger kinds of which are almost like trees.

The Muscales, or Mosses, are small species occurring in various situations, and of singular beauty; they are to be met with on the ground, on stones, and the barks of trees.

The Lycopodales, or Clubmosses, are few in number, and have small imbricated leaves, and a coniferous fructification.

The Filicales, or Ferns, are an interesting and singular tribe of plants, which are largely represented here, and may readily be known by the spores, which in fantastic forms stud the long and beautiful leaves; they are common along the banks of the rivers and creeks, and are also found in the forests, varying in size and form.

MUSCALES—MOSSES.

Plagiochila stricta
" patula
" montagnei
" martiana.
" rutilans
" adiantoides
" disticha
" asplenioides
" biserialis
" subplana

Jungermannia albicans
Mastigobryum serpentinum
Micropterygium vulgare
Radula pallens
" recubans
Phragmicoma torulosa
" corticalis
Lejeunia leprieurii
" lunulata
" surinamensis
" crucianella.

Lejeunia cordifissa
" chitonia
" weigeltii
" inflexa
" oxyphylla
" amœna
" elegans
" duriuscula
" myriantha
" adnata
" rigidula
" flexuosa
" pellucida
" cuneata
" splitgerberiana
" involvens
" radicosa
" fortifolia
" repens
" adglutinata
Frullania gibbosa
" arietina
" squarrosa
" ericoides
" taylori
" subtilissima
" obcordata
" leprieurii
" montagnei
" exilis
Aeura pinnatifida
Metzgeria furcata
Sphagnum palustre
Octoblepharum cylindricum
" albidum
Cryptandum schomburgkii
Hydropogon fontinaloides
Hookeria depressa
" scabriseta
Macromitrium leprieurii
" mucronifolium
" cirrhosum
" apiculatum
Schlotheimia squarrosa
" rugifolia
" viticulosa
Dicranum albicans
" tenuirostre
" glaucum
" megalophyllum
Bryum coronatum
Leucobryum martianum
Bartramia uncinata
Polytrichum bipinnatum
polytrichoides
" commune
Calymperes palisoti
" afzelii
" androgynum
" lonchophyllum
" berterii
Pterygynandrum intricatum
" pulchellum
Neckera filicina
" imbricata
" polytrichoides
" vulpina
" undulata
" scabriseta
Leskia microcarpa
" cæspitosa
" pungens
Hypnum subsimplex
" richardii
" elegantatum
" cirrhiferum
" gratum
" chamissonis
" patulum
" leptochæton
Drepanophyllum fulvum
Phyllogonium fulgens
Fissidens prionodes
" hornschucii
" radicans
" leptophyllus
" guianensis
" kegelianus
" intermeduis
" pellucidus

LYCOPODALES.

Lycopodium reflexum
" cernum
" carolinianum
" aristatum
" linifolium
" dichotomum
" dendroideum
" robustum
" intermedium
" subulatum
" lussieni
Selaginella breynii
" pedata
" puberula
" radiata
" concinna
" convoluta
" guianensis
" flabellata
" pœppiginea
" rupestris

FILICALES—FERNS.

Hymenostachys elegans
" diversifrons
Tichomanes heterophyllum
" pellucens
" plumula
" pilosum
" ankersii

Tichomanes membranaceum
" brachypus
" pricurii
" kaulfussii
" laxum
" cellulosum
" bancroftii
" coriaceum
" tenerum
" anceps
" rigidum
Neurophyllum pinnatum
" hostmannianum
" vittaria
" floribundum
Didymoglossum reptans
" krausii
Hymenophyllum pœppigianum
" polyanthos
" asplenioides
" clavatum
Sphærocionium crispum
Danæ simplicifolia
" trifoliata
" leprieurii
Ophioglossum macrorrhigum
" reticulatum
" nudicaule
Schizæa trilateralis
" elegans
" flabellum
" dichotoma
" incurvata
Actinostachys pennula
Aneimia humilis
" ferruginea
" cheilanthoides
" villosa
" schomburgkiana
Lygodium volubile
" polymorphum
" venustum
" hirtum
" hastatum
Mertensia longipennis
" pubescens
" pectinata
" rufinervis
" pedalis
" immersa
Cyathea hirtula
" aspera
Alsophila ferox
" multiflora
" pungens
" oblonga
" subaculeata
" armata
" villosa
" marginalis
Hemitelia guianensis
Hemitelia hostmannii
" parkerii
Dicksonia adiantoides
Davallia Imrayana
Lindsæa dubia
" schomburgkii
" falcata
" stricta
" crenata
" trapeziformis
" divaricata
" moritziana
" pendula
" gracilis
" raddiana
" pumila
" rigescens
" pallida
" tenuis
" filiformis
" susilla
" saliciformis
" macrophylla
" rufescens
" quadrangularis
" guianensis
Adiantum serrato-dentatum
" triangulatum
" tomentosum
" obliquum
" fernatum
" rigidum
" glaucescens
" cajennense
" hirtum
" radiatum
Blechnum serrulatum
" ceteraccinum
" unilateralis
" asplenioides
" gracile
" polypodioides
" unilaterale
Hypolepis guianensis
Pteris deflexa
" litobrochioides
" pungens
" biformis
" arachnoidea
" denticulata
" elegans
Doryopteris palmata
" euchlora
" lomariacea
Lomaria plumierii
" schomburgkii
Salpiglæna volubilis
Asplenium schomburgkianum
" harpeodes
" serra
" salicifolium

Asplenium formosum
" auritum
" allœopteron
" ingerrimum
" cuneatum
Nephrolepis ensifolia
" sesquipedalis
" exaltata
Asipidium macrophyllum
" guianense
" denticulatum
" coriaceum
" mexicanum
" pendulum
" schomburgkii
" cicutarium
" fraxinifolium
" hookerii
" nodosum
" gongylodes
Polypodium blechnoides
" confusum
" phlegmaria
" abbreviatum
" taxifolium
" hygrometricum
" cultratum
" nervosum
" apiculatum
" firmum
" trifurcatum
" trichomanoides
" pendulum
" pilosissimun
" paradiseal
" discolor
" paronianum
" ciliatum
" lepidopteris
" incanum
" subalatum
" richardii
" attenuatum
" hostmanni
" distans
" crassifolium
" fasciale
" phyllitidis
" leucortrizon
" costatum
" areolatum
Polypodium decumanum
" aureum
" lycopodioides
" percussam
" lepidotum
Mecosorus nudus
" marginellus
" persicariæfolius
" schomburgkii
Gymnogramma pumila
" schomburgkiana
" calomelanos
" guianensis
Meniscium serratum
" macrophyllum
Antrophyum cajennense
" subsessile
Hemionitis palmata
Acrostichum decoratum
" schomburgkii
" alatum
" flaccidum
" simplex
" herminieri
" glabellum
" plumosum
" brevipes
" aureum
" prieurianum
" erythroides
" calophyllum
" apodum
" cuspidatum
" jamesonii
" piloselloides
" luridum
" sepidotum
" sommarioides
" citrifolium
" peltatum
" cajennense
" aureum
" hirsutum
" semipinnatifida
" dentata
Polybotria caudata
Tœnitis furcata
" angustifolia
" desvauxii
Vittaria graminifolia
Xiphopteris serrulata

SEXUAL, OR FLOWERING PLANTS.

Class III.—*Rhizogens.*

Ascending the scale of vegetable life, we next find plants possessed of flowers, with a distinct sexual apparatus, the fructification springing from a thallus.

According to Professor Lindley,* "Rhizogens are parasitical plants destitute of true leaves, in room of which they have cellular scales. Their stem is either an amorphous fungous mass, or a ramified mycelium, sometimes, perhaps always, appearing to be lost in the tissue of the plants on which it grows; and is very imperfectly supplied with spiral vessels, which in some instances seem to be wholly deficient. No instance of green colour is known among them; but they are brown, yellow, or purple. They are furnished with true flowers, having genuine stamens and carpels, and surrounded by a trimerous or pentamerous calyx, or absolutely naked. Their forms are exceedingly diversified. Rhizogens all agree in being of a fungus-like consistence, and in their habits of living parasitically on the roots of other plants."

I am not aware that there are any plants belonging to this class in this country.

Class IV.—*Endogens.*

In the next class of plants, termed Endogens, or Monocotyledons, we find a multitude of species with distinct stems, leaves, and flowers. They derive the

* Vegetable Kingdom.

name of Endogens from the fact of the new woody matter being constantly developed in the first instance towards the interior of the trunk, only curving outwards in its course downwards; as exemplified in the palm trees, and others. The following are the characteristic features of this class:

1st. The wood is endogenous.
2nd. The leaves are straight-veined.
3rd. The organs of fructification are ternary.
4th. The embryo is monocotyledonous.
5th. The germination is endorhizal.

The class is divided into several alliances, and include the palms, arals, grasses, bulrushes, the lilyworts and orchids, besides others.

ALLIANCE VII. GLUMALES.—ORDER 29. GRASSES.

Saccharum officinarum—sugar cane (Bourbon)
" commune—creole cane
" otaheitense—Otaheite cane
" caudatum
" contractum
" spicatum
Andropogon schænanthus—lemon grass
" angustifolius—sour grass
" bicornis—deer or foxtail grass
" fascicularis
" brevifolius
" avenaceus
Luziola peruviana—grave grass
Pharus scaber
Sorghum vulgare—guinea corn
" bicolor "
" cernuum "
" saccharatum "
Olyra longifolia
" paniculata
" ornata
" glauca
Eriochloa kunthii
" punctata
Isachne dubia—reed grass
Oplismenus crus galli
" velutinus
" hirtellus—Scotch grass
" colonus
Setaria caudata
" macrostachya
" glaucum
Echinolaena scabra
" hirta
Dactyloctenium ægyptiacum—cruciated grass
Leptochloa domingensis
" digitaria
" virgata
" dubia
" gracilis
Spartina fasciculata
Orthoclada laxa
Ischaemum guianensis
" latifolium
Anstida capillacea
Sporobolus acneus
Panicum leucophæum
" laxum
" sulcatum
" sanguinale
" clandestinum
" fasciculatum
" tenuiculmum
" avenaceum
" granuliferum
" maculatum
" zizanioides
" divaricatum
" adscendens
" fluitans
" granuliferum
" trichoides
" jumentorum—guinea grass
" paspaloides—long grass
" latifolium—May grass
" fimbriatum

Panicum colonum—purple panic grass, or vine grass
" horizontale
" lineare—devil's grass
" mertensii
" pilosum—Scotch grass
" arundinazum
" molle—rice grass
" pilisparsum
" elatius
" stoloniferum
" pallens
" glutinosum
" cayennense
" isocalycinum
" commelinafolium
" myurus
" spectabile
" distachyum
Paspalum distichum—savannah grass
" repens
" conjugatum—sour grass
" virgatum—lamaha grass
" mealonospermum—lamaha grass
" paniculatum
" gracile
" platicaule
" pusillum
" vaginatum—crab grass
" scoparium
" leptostachyum
Cenchrus giganteus—a sweet grass
" echinatus—bur grass
" tribuloides—bur grass
" pungens
Zea mays—Indian corn
Coix lachryma—Job's tears
Pennisetum richardii
Agrostis minima
" indica
" virginicus—crab grass
" truncatellus
Poa ciliaris—dog's grass
" dactyloides
Eleusina indica—Dutch grass, or man grass
Cynodon dactylon—Bahamas grass, or devil's grass
Arundinaria schomburgkii—(Woorali poison)
Arundo donax
Bambusa arundinacea—bamboo
" latifolia
Pariana campestris
Chloris elegans
" polydactyla
Oryza sativa—rice
" latifolia
Leersia oryzoides
Gynerium paniflorum—the arrow plant
Gynerium saccharoides
Guadua latifolia
Zeugites americana

ORDER 30. CYPERACEÆ—SEDGES.

Cyperus vegetus
" odoratus
" hamiltonii
" stellatus
" ferox—razor grass
" hydra—nut grass
" luzulæ
" jubæflorus
" surinamensis
" ligularis—bulrush
" nemorosus
" rotundus
" callophorus
" amentaceus
" compresons
" densiflorus
" elegans
" giganteus
" fascicularis
" strigosus
" schomburgkianus
" infucatus
" simplex
" glomeratus
" cuspidatus
" brizæus
" insignis
" tenuicornus
Fimbristylis laxa
" ferruginea
" spadicea
" vahlii
" limosa
" dichotoma
" tenuis
" brizoides
Dichromena ciliata
" junciformis
" leucocephala
" hispidula
" globosa
" puberosa
Kyllingia pungens
" triceps
" obtusata
" odorata
" cruciformis
Mariscus elatus
" littoralis
" coriaceus
Trichelostylis longirostris
" stricta
Hemicarpha subsquarrosa
Abildgaardia monostachya
Hypolytrum pungens
" sylvaticum

Hypolytrum longifolium
Diplasia karatæfolia
Dichromena elatior
" pubera
" ciliata
" junciformis
" leucocephala
" hispidula
" globosa
" micrantha
" setacea
Psilocarya rufa
" candida
Rhynchospora barbata
" polycephala
" evaltata
" cephalotes
" globosa
" amazonica
" glauca
" sybratica
Acrocarpus stellatus
Lagenocarpus guianensis
" tremulus
Hymenolytrum sylvestre
Becquerelia merkeliana
Calyptrocarya fragifera
" angustifolia
" brevicaulis
" longifolia
Eleocharis mutata
" capitata
" septata
" submersa
" maculosa
" obtusa
Scleria flagellum
" interrupta
" capitata
" microcarpa
" mitis
" bracteata
" tenella
" verrucosa
" kunthii
" nutans
" cyperina
" melaleuca
" stipularis
" grandiflora
Eriophorum angustifolium
Isolepis capillaris
" micrantha
" conifera
" junciformis
" vestita
" albescens
Schœnus globosus
" fragiferus
" floridus
Makania sylvatica
Remirea maritima
Fuirema umbellata
" guianensis
Schirpus geniculatus
" cubensis

ORDER 33. ERIOCAULACEÆ.

Tonina fluviatilis
Pæpalanthus capillaceus
" schomburgkii
" dichotomus
" guianensis
" griocephala
" umbellatus
" lamarckii
" ottonis
" procerus
" surinamensis
" caulescens
" hispidus
" subulatus
" humboldtii
" fasciculatus
Eriocaulon brevifolium
" tenuifolium
" humboldtii

ORDER 34. PISTIACEÆ—DUCKWEEDS.

Pistia stratioides
" linguæformis
" commutata
" horkeliana

ALLIANCE VIII.—ORDER 36. ARACEÆ —ARUMS.

Arum maculatum
" braziliensis
" arborescens—mocco-mocco
" dracontium
" maciorhyzum
" aculeatum
" hediracæum
" lingulatum
Philodrendron crassinervum
" cannæfolium
Monstera adansonii
" cannæfolia
Caladium esculentum—eddoes or tannias
" arborescens
" sagittæfolium—nut eddoes
" grandifolium
" nymphæifolium—wild eddoes
" bicolor
" fragrantissimum
Xanthosoma edule
Colocasia mucronata
Acontias heleborifolius
Arisæma braziliana

ORDER 37. PANDANACEÆ.

Carludovica plumerii
„ subacaulis
Cyclanthus bipartitus

ALLIANCE IX.—ORDER 38. PALMACEÆ —PALMS.

Cocos nucifera—cocoa-nut tree
Astrocaryum aculeatum—star-nut palm
„ gynacanthum „
„ acaule „
„ munbaca „
„ vulgare „
„ campestre „
„ muru muru „
„ jauari „
Sagus—sago tree?
Oreodoxa vel areca oleracea—cabbage-tree
Phytelephas macrocarpa
Borassus
Acrocomia sclerocarpa—grougrou palm
Mauritia aculeata
„ flexuosa—ita palm
„ armata
Palma parviflora
„ dactylifera
„ maripa
„ humilis
Bactris—sarbacan, or blow-pipe
Maximiliana regia—cucurit
Thrimax parviflora—fan palm
Elais guianensis—palm-oil tree
„ melanococca
Seaforthia, or euterpe—manicole palm
Guilielma speciosia—paripa, or pirijas palm
Attalea funifera
„ speciosa
„ excelsa
Iriartea exorrhiza
„ ventricosa
Ænocarpus bataua—tum palm
„ minor
„ bacaba
„ regius
Euterpe oleracea
„ edulis
Raphis flabelliformis—dwarf palm
Chamædorea pauciflora
„ gracilis
Hyospathe elegans
Leopoldinia pulchra
„ insignis
Lepidocaryum gracile
„ tenue
Geonoma maxima
„ acutiflora
„ laxiflora
„ diversa
Geonoma sprixiana
„ stricta
„ arundinacia
„ acaulis
„ macrostachys
„ poiteanana
„ baculifera
„ elegans
Mancaria saccifera—troolie palm
Des oncus macracanthos
„ polycanthos
„ mitis.
„ setosus
Bactris maraja—cane palms
„ aristata
„ concinna
„ mitis
„ longifrons
„ major
„ simplicifrons
„ acanthocarpa
„ macracantha
„ pectinata
Martinezia caryotæfolia

ORDER 39. HYDROCHARIDÆ.

Udora guianensis
„ surinamensis
Simnobium spongia

ALLIANCE XI. NARCISSALES.—ORDER 42. BROMELIACEA.

Ananassa sativa—pine-apple
Bromelia mertensii
„ ananas
„ pinguin—wild pine
„ discolor
„ karatas—caraguata pine
„ longifolia
„ lingulata
„ lutea
„ nudicaulis
Tillandsia anceps
„ bromelifolia
„ usneidoes—old man's beard
„ pulchra
„ floribunda
„ flexuosa
„ setacea
„ conspersa
„ vestita
„ ramealis
„ aloæfolia
„ recurvata
Pitcairnia bromelifolia—scarlet pitcairn
Bilbergia clavatas
„ odorata
„ lutea
„ nudicaulis
„ mertensii

Puya guianensis
„ macrostachya
Encholirium angustæ

ORDER 44. HÆMODORACEÆ—BLOOD-ROOTS.

Xiphidium cœruleum—vel floribundum
„ fockeanum
Troschelia orinocensis
Nietneria corymbosa
Barbaceniæ alexandrinæ

ORDER 45. HYPOXIDACEÆ.

Hypoxidea breviscarpa
„ scerzoneræfolia

ORDER 46. AMARYLLIDACEÆ—AMARYLLIS.

Amaryllis equestris—red lily
„ zeylanica—wild tulip
„ formosa—Brazil lily
„ belladonna—belladonna lily
Pancratium guianense—white lily
„ littorale
„ fragrans
„ caribæum
„ amænum
„ tubiflorum
Crinum americanum—asphodil
„ guianense
„ viridifolium
„ corentynum
„ lancei
„ erubescens
Agave americana—silk grass, or aloe
„ vivipara
„ gigantea—carata, or silk grass
Hippeastrum barbatum
„ occidentale
„ equestre
„ solandrofolium
Hymenocallis guianensis
„ tubiflora
„ amæna
„ fragrans
„ sloanei
„ caribea
„ dyandri
Bomarea fuscata
„ edulis

ORDER 47. IRIDACEÆ—IRIDS.

Tigrinia pavonia—tiger lily
Marica paludosa
„ tenuifolia
„ martinensis
Sisyrynchium latifolium—bloodworth
„ iridifolium
„ alatum
Iris xyphium
Libertia grandiflora
Cipura paludosa

ALLIANCE XII. AMOMALES.—ORDER 48. MUSACEÆ.

Musa paradisiaca—plantain tree
„ sapientum—banana tree
„ chinensis—dwarf plantain
„ rosacea—rose banana
Urania
Ravenala guianensis
Helicoma behai
„ acuminata
„ psittacorum
„ richardiana
„ braziliensis
„ schomburgkiana
„ pulverulenta
„ ballia
„ flexuosa

ORDER 49. ZINGIBERACEÆ—GINGER PLANTS.

Allucia cernua
Zingiber officinale—ginger
Amomum meleguita—Guinea pepper
Grana vel paradisiaca „
Curcuma longa—turmeric
Costus spicatus
„ spiralis
„ comosus
„ niveus
„ cylindricus
„ villosissimus
Alpinia nutans—shell plant
„ tubulata—Demerara
„ exaltata—Surinam
Renealmia aromatica
„ racemosa

ORDER 50. MARANTACEÆ—ARROW-ROOT PLANTS.

Canna indica—Indian shot
„ surinamensis
„ lutea—yellow shot
„ coccinea—red shot
„ achiras—tous-les-mois
„ glauca
„ discolor
„ lambertii
Maranta arundinacea—arrowroot
„ allouya
„ obliqua
„ petiolata
„ protracta
„ gracilis
„ humilis
„ tonchat
„ lutea
„ pubescens
Thalia verrucosa
„ altissima
Phrynium casupa
„ pumilum

Phrynium guianense
Calathea macrostachya
„ composita
„ latifolia
Thalianthus macropus
Myrosma cannæfolia
„ comosa

ALLIANCE XIII. ORCHIDALES.—ORDER 51. BURMANNIACEÆ.

Burmannia bicolor
„ quadriflora
„ capitata
„ brachystachya
Dictyostega schomburgkiana

ORDER 52. ORCHIDACEÆ.—ORCHIDS.

Pleurothallis ciliata—fl. brown
„ grobyii—purp. yellow
„ lanciana—orange
„ picta—yel. striped
„ ruscifolia
„ pruinosa
„ sicaria
„ discoidea
„ aristata
„ multicaulis
„ succosa
Specklinia orbicularis
Physosiphon emarginata
Octomeria tridentata
Stelis argentata
„ ophioglossoides
Bolbophyllum setigerum
„ bracteolatum
Liparis
Epidendrum chloranthum—fl. green
„ chloroleucum—gr. white
„ dichotomum—green
„ inosmum—yel. green
„ longicolle—yellow
„ ciliare
„ sascatum
„ viviparum—white
„ pachyanthum
„ pictum—yel. crimson
„ schomburgkii—scar pink
„ coriaceum—green purple
„ smaragdinum—green
„ scutella—gr. yellow
„ sessili florum—br. white
„ stenopetalum
„ tridens
„ elongatum—red
„ fragrans
„ nocturnum
„ ellipticum
„ dicusatum—pink
„ durum—yellow
„ flexuosum—wh. green
Epidendrum graniticum—gr. white
„ imatophyllum—rose
„ lentiginosum—yel. green
„ longibulbum
„ microphyllum—purple
„ monophyllum—white
„ musciferum
„ pumilum
„ saxatile—red purple
„ papilionaceum
„ secundum
„ schomburgkii
„ patens
„ umbelliferum
„ tetrapetalum
„ maculatum
„ skinneri
„ regidum
„ bicornutum
„ clavatum
Diothonea imbricata
Isochilus fusiforme
Physinga prostrata
Brassavola angustata—yellow green
„ cucullata
„ nodosa
„ barkleya
„ martiana—white
Cattleya superba
„ odoratissima
„ mossiæ
„ pumila
Schomburgkia marginata
„ crispa
Aspasia variegata
Ornithidium coccineum
„ album
Trizeuxis falcata
Ornithocephalus gladiatus
„ ciliatus
„ trichorrizus
Trigonidium obtusum
„ acuminatum
„ tonue
„ egertonianum
Aganisia pulchella
Maxillaria acutifolia—fl. brown
„ chlorantha—yel. green
„ glauca—yellow
„ foveata—straw
„ gracilis—red
„ graminea—yel. red
„ pallens—pale
„ parkei—white
„ pamila—purple
„ sinuosa
„ steelii—yel. spotted
„ uncata
„ cristata
„ batemanni
„ henchemanni

Maxillaria guianensis
„ porrecta
„ densa
Trichocentrum iridifolium
„ recurvum
Bifrenaria aurantica
„ longicornis
Batemannia colleyi
Scapphyglottis pallidiflora
„ violacea
„ reflexa
„ stellata
Dicrypta bicolor
„ iridifolia
Cychnoches chlorochilon
„ loddigesii
„ purpureus
Myanthus barbatus
„ deltoideus
Catasetum trifidum
„ tridentatum
„ longifolium
„ saccatum
„ poriferum
„ barbatum
„ cornutum
„ deltoideum
„ bushmanni
„ viridiflorum
„ atropurpureum
„ aureum
„ luridum
Monocanthus discolor
„ viridis
Stanhopea grandiflora
„ insignis
„ eburnea
„ oculata
Houlletia vittata
Gongora atropurpurea
„ fulva
„ maculata
„ variegata
„ nigrita
„ histrio
„ punctata
„ major
„ alba
„ aurantia
„ citrina
„ fulgens
„ fusca
„ gracilis
„ grisea
„ lutea
„ squalus
„ sanguinea
Coryanthes macrantha
„ maculata
„ speciosa
Peristeria pendula
Peristeria cerina
Cymbidium trinerve
„ guttatum
„ hirsutum
Galeandra baueri
„ devoniana
„ juncea
Xygopetalum rostratum
„ cochleare
„ mackaii
Cyrtopodium andersonii
„ parviflorum
„ cristatum
„ punctatum
Notylia micrantha
Ionopsis teres
Rodriguesia secunda
„ rosea
Burlingtonia candida
„ venusta
Macradenia triandra
Notylia tenuis
„ parkeri
„ incurva
Masdevallia guianensis
Oncidium lunatum—fl. orange
„ papilio—yel. purple
„ lanceanum—gr. purple
„ altissimum—yellow
„ bicornutum
„ carthaginense
„ guttatum
„ pulchellum
„ baueri
„ luridum
„ iridifolium
„ emarginatum
„ nanum
„ sanguineum
„ variegatum
„ pirarense
Fernandesia elegans
„ acuta
Dichæa graminoides
„ echinocarpa
Odontoglossum epidendroides — gr. brown
Brassia macrostachya—yel. spotted
„ lanceana
„ punctata
„ laurenciana
„ cochleata
„ viridiflora
„ caudata
„ odontoglossoides
„ verrucosa
Angræcum fasciola
Bonatea pauciflora
„ macilenta
Cleistes rosea
„ lutea

Cleistes parviflora
Habenaria demerarensis
„ longicauda
„ seticauda
„ heptadactyla
„ schomburgkii
Sobralia sessilis
„ Elisabethæ vel liliastrum
Epistephium parviflorum
Vanilla planifolia
„ bicolor
„ palmarum
Neottia lanceolata
Spiranthes bicolor
„ tenuis
„ picta
„ elata
Stenorynchus orchioides
Goodyera guianensis
Cypripedium palmifolium
„ lindleyanum
„ klotzschianum
Huntleya violacea
„ sessiliflora

ALLIANCE XIV. XYRIDALES.—ORDER 55. XYRIDACEÆ.

Xyris guianensis
„ eriophora
„ communis
„ involucrata
„ tenella
„ savennensis
„ eriophylla
„ macrocephala
„ surinamensis
„ caulescens
„ fontanesiana
Rapatea paludosa
„ sphærocephala
„ Fred. Augusti
Spathanthus unilateralis
Abolboda aubletii
„ pulchella

ORDER 56. COMMELYNACEÆ.

Commelyna cajenensis
„ guianensis
„ schomburgkiana
„ communis—pond grass
„ canonia
„ erecta — upright commelyna
„ glabra
„ platyphylla
Tradescantia discolor—spiderwort
„ elongata
„ geniculata
„ guianensis
„ floribunda
Limnocharis humboldtii
Limnocharis plumierii
Campelia zanonia
Callisia repens
Dithyrocarpus schomburgkianus
Dichorysandra aubletiana
„ schomburgkiana
Aneilema schomburgkiana

ORDER 57. MAYACEÆ.

Mayaca aubletii

ALLIANCE XV. JUNCALES.—ORDER 59. ORONTIACEÆ.

Anthurium gracile
„ trinerve
„ violaceum
„ scolopendrinum
„ lanceolatum
„ hookeri
„ cordifolium
„ macrophyllum
„ rubrinervium
„ pentaphyllum
„ aubletii
„ palmatum
„ crenatum
Spathiphyllum sagittafolium
Dracontium dubium
„ polyphyllum
Typha latifolia
Sparganium ramosum

ALLIANCE XVI. LILIALES.—ORDER 62. LILIACEÆ—LILIES.

Aloe vulgaris—aloes plant
Dracœna ferrea—dragon's blood
Yucca acuminata—Adam's needles
„ draconis—Spanish needles
„ gloriosa—do.
Polianthis gracilis
„ tuberosa—tuberose
Asparagus officinalis—asparagus
Allium sativum—garlick
„ porrum—leak
„ cepa—onion
„ vulgare—eschalots
Lilium lancifolium
Gloriosa superba

ORDER 63. PONTEDERACEÆ—PONTEDERAS.

Pontedera eriantha
„ azurea
„ limosa
„ rotundifolia—water plantain
„ schomburgkiana
„ crassipes
Erichomia speciosa
„ azurea

Heteranthera diversifolia
" limosa
" reniformis
" grandiflora
" formosa

ORDER 64. BUTOMACEÆ.

Hydrocleis humboldtii
" commersonii

ALLIANCE XVII. ALISMALES.—ORDER 65. ALISMACEÆ.

Sagittaria guianensis
" subulata
" sellowiana
" lancifolia
" angustifolia
" acutifolia
Alisma cordifolia—pond weed
" acutifolia
" lancifolia
" angustifolia

Class V.—*Dictyogens.*

The fifth class of plants are termed Dictyogens, whose foliage and habit of growth are peculiar. They appear like Endogens, but have a broad net-veined foliage, which usually disarticulates with the stem. There are very few genera and species included under this class, and botanists are still at variance as to the distinctive character which separate them from Exogens and Endogens, to both of which classes they bear some affinity.

The natural orders of Dictyogens comprise but few species, and can hardly be considered as established on recognised characters; nevertheless, the distinction they present have caused them to be retained under this class.

Dictyogens comprise the plants called Tailworts, the Yam tribes, the Sarsaparillas, and a few other orders. The two latter are sufficiently known to render description unnecessary, and the following species are found here:

ORDER 68. DIOSCOREACEÆ—YAMS.

Dioscorea sativa—common yam
" truncata
" triphylla—buck yam
" schomburgkiana
" aculeata—guinea yam
" megalobotrya
" alata—red yam
" riparia
" bulbifera—Grenada yam
" lutea
" syringæfolia
" braziliensis
Rajana cordata

ORDER 69. SMILACEÆ—SARSAPARILLAS.

Smilax ovato—sarsaparilla
" guianensis
" longifolia
" surinamensis
" globifera
" schomburgkiana
" macrophylla
" pirariensis
" sarsaparilla
" pseudochina
" zeylanica
" papyracea

Class VI.—*Gymnogens.*

The sixth class of plants, called Gymnogens, have nearly an equal relation to flowering and flowerless plants. They are known from most other vasculares by the vessels of their wood having large apparent perforations or disks. There are but few plants belonging to this class in this country: the Conifers, Pine, and Fir trees inhabit chiefly colder climates, and are not to be expected in the latitude of the Palms and other tropical trees. The Cycads, or Sago Palms, however, occur, and are remarkable for the gyrate vernation of leaves like in the true Ferns, and for the peculiar formation of the trunks, whose growth terminates by a terminal bud, only similar to the class of Acrogens. The following are the orders and species met with here:

ORDER 73. CYCADEACEÆ—SAGO PALMS.
Cycas revoluta—narrow-leaved sago
„ circinalis—broad-leaved sago

ORDER 74. PINACEÆ—PINES.
Juniperus bermudiana—Bermuda cedar
„ barbadensis—Barbadoes juniper

ORDER 76. GNETACEÆ.
Gnetum vel thoa urens

Class VII.—*Exogens.*

The seventh class of plants comprise those which have been termed "Exogens," that is, outward growers, or such plants which, as they continue to grow, add the new wood to the outside of that formed in the previous year. All the trees of cold climates, and the principal part of those in other latitudes, are Exogenous.

Year after year, as Exogens grow, they form new wood zone upon zone, which is permanent; while fresh bark is formed zone *within* zone, perishable at the outside, but which is renewed inside as the stem increases in diameter.

But other characteristics mark the Exogens distinctly from the other classes:

The veins of the leaves are reticulated, or netted;

The fructification is formed upon a quinary or quaternary type;

The embryo is dicotyledonous;

The germination is exorhizal.

Exogens are divided into the following sub-classes:

1. Flowers absolutely unisexual, termed *Diclinous* Flowers Hermaphrodite;

2. Stamens not adhering to Calyx or Corolla, Hypogynous;

3. Stamens adhering to Calyx or Corolla, Perigynous;

4. Stamens, Calyx, and Corolla all adhering to the ovary, or Epigynous.

These sub-classes are grouped in alliances, which are again subdivided into natural orders, according to the affinities which characterise them. The numerous species of Exogens which are found are referrible to these orders, alliances, and sub-classes, according to the structure and properties they display.

ALLIANCE XIX. URTICALES.—ORDER 84. URTICACEÆ.

Urtica microphylla—maiden hair
„ latifolia
„ œstuans—Surinam nettles
„ ciliaris
„ ciliata
„ grandiflora—white nettles
„ latifolia
„ divergens
Brosimum?—cow tree
Cecropia peltata—trumpet tree

ORDER 85. CERATOPHYLLACEÆ.

Ceratophyllum demersum—small duck-weed

ORDER 87. MORACEÆ.

Morus niger—mulberry
Urostigma vel ficus carica—common fig
„ trigonum
„ martinicensis
„ paraense
„ indica
„ leucostictum
„ americana
Urostigma angustifolium
„ elastica
„ laurifolium
„ scandens—Madeira ivy
„ pertusa—Surinam

ORDER 88. ARTOCARPACEÆ.

Artocarpus incisa—bread fruit
„ nucifera—bread nut
„ integrifolia—taca tree
Olmedia maquira
Peribea guianensis
Bagassa guianensis
Piratinera guianensis—letter wood
Pourouma guianensis
Coussapoa angustifolia
„ latifolia
„ fagifolia

ALLIANCE XX. EUPHORBIALES.—ORDER 90. EUPHORBIACEÆ.

Astræa lobata
Adelia bernardii
Croton palustre—marshy croton
„ subluteum
„ sanguiflum

Croton aromaticum
„ tiglium—croton oil
„ ricinocarpum
„ cuneatus
„ balsamiferum—sea-side sage
„ sericeum
„ suave
„ gossypifolium
„ essequiboensis
„ nervosus
Euphorbia antiquorum—spreading spurge
„ diæcia
„ nerifolia
„ cotinifolia
„ hypericifolia—milk weed
„ pilulifera—globular spurge
„ maculata—dove weed
„ obliterata—red milk weed
„ atropurpurea—bastard indian-rubber
„ erythrocarpa
„ glabrata—sea-side milk weed
„ amœna
Brachystachys hirta
Podostachys guianensis
Podocalyx loranthoides
Schismatopera distichophylla
Hippomane mancinella—manchineel
Hura crepitans—sand-box tree
Sapium aucuparium—poison tree
Omphatea diandra
„ triandra
Plukenetia verrucosa
Tragia volubilis—vine nettle
Tragia grandifolia
Dalechampia guianensis
„ hibiscioides
„ buttnerierdes
„ braziliensis
„ scandens
„ heterophylla
Phillanthus piscatorum
„ guianensis
„ microphyllus
„ urinarea
„ conami
„ niruri
„ mutabilis
„ lathyroides
„ coriacum
„ obcordatus
„ essequebo
Amanoa guianensis—hardwood
Cicca disticha—Otaheite gooseberry
Pedilanthus carinatus
Jatropha gossypifolia—wild cassada
„ manihot—bitter cassada
„ læflingii vel janipha—sweet cassada
Jatropha herbacea
„ curcas—physic nut
„ elegans
„ multifidoa—French physic nut
„ peltata
„ urens
Stillingia sebifera—tallow or gum tree
„ aucuparun
Xylophylla falcata
Peridium bicolor
„ schomburgkii
„ ferrugineum
Ricinus communis—castor oil
Maprounea guianensis
Conceveiba guianensis
Mabea pirini
„ taquari
„ volubilis
Siphonia elastica
„ schomburgkii
Bartramia grandulifera
Caperonia cubensis
„ angustissima
„ palustris
„ linearifolia
Disco-carpus Essequiboensis
Amanoa guianensis
Dactylostemon schomburgkii
„ guianensis
Gussonia cuneata
„ grandifolia
Adenogyne discolor
„ guianensis
Microstachys guianensis
Traganthus sidoides
Alchornea latifolia
„ schomburgkii
Asterocroton guianensis
Macrocroton surinamensis
Palamostigma crodonoides.

ALLIANCE XXIII. MENIPERMALES.—ORDER 101. MYRISTACEÆ—NUTMEGS.

Myristica sebifera—tallow or dali tree
„ fatua
„ moschata—nutmeg tree

ORDER 104. MENISPERMACEÆ—MOON-SEEDS.

Cissampelos microcarpa
„ caapeba
„ pareira—pareira brava root
„ glabra
„ crenata
„ fasciculata
Menispermum amara
„ abuta
Abuta rufescens
Trichoa guianensis

ALLIANCE XXIV. CUCURBITALES.—ORDER 105. CUCURBITACEÆ.

Cucumis sativus—common cucumber
„ melo—melon
„ citrullus—water melons
„ anguria—wild cucumber
Sicyos laciniatus
Cucurbita pepo—pumpkin
„ melopepo—squashes
„ ovifera—vegetable marrow
Anguria guianensis
„ polyanthos
„ triphylla
„ multiflora
Momordica charantia—hairy cerasee
„ operculata—rough fruited momordica
Melothria pendula—small wild cucumber
Bryonia racemosa—hop bryony
Lagenaria vulgaris—gourd vine
Trichosanthis anguina—snake gourd
„ amara
Hypanthera guapeva
Sechium edule—choco vine, or veg. marrow
Fevillea trilobata
„ hederacea

ORDER 107. BEGONIACEÆ.

Begonia sanguinea
„ scandens

ALLIANCE XXV. PAPAYALES.—ORDER 108. PAPAYACEÆ—PAPAYAS.

Carica papaya—papaw tree
„ pyriformis
„ spinosa

ALLIANCE XXVI. VIOLALES.—ORDER 110. FLACOURTIACEÆ—ARNOTTO PLANTS.

Banara guianensis
Bixa orellana—arnotto, or roucou
Carpotroche paludora
„ odorata
Flacourtia ramontchi

ORDER 111. LACISTEMACEÆ.

Lacistema myricoides
„ macrophylla
„ floribunda

ORDER 112. SAMYDACEÆ.

Casearia celtidifolia
„ carpinifolia
„ macrophylla
„ subciliaris
„ ramiflora
„ squarrosa
Casearia parviflora—wild honey tree
„ benthamiana
„ celastroides
„ javitensis
„ densiflora
„ lancifolia
„ lævigata
„ spinosa
„ brevipes
„ avellana
„ stipularis
„ petrea

ORDER 113. PASSIFLORACEÆ—PASSION FLOWERS.

Cieca hederacea
„ guianensis
„ discolor
„ appendiculata
Passiflora glauca
„ stipulata
„ fœtida—love in a mist
„ emarginata
„ maliformis—conch apple
„ guianensis
„ suberosa—ink vine
„ palmata
„ coccinea
„ serratafolia—simitou
„ alata
„ quadrangularis—granadilla
„ laurifolia—water lemon
„ linifolia
„ glandulosa
„ murucuja
Distephana glandulosa
„ stoupyana
„ rohriana
„ citrifolia
„ fockiana
Tæsonia spinescens
„ sanguinea
Patrisia tomentosa
„ bicolor
Decaloba rubra
„ capsularis
„ truncata
„ vespertilio
„ rohrii
„ perfoliata
„ cyathophora
„ surinamensis
„ rotundifolia
„ hemicycla
„ cirrhiflora

ORDER 115. MORINGACEÆ.

Moringa plerygosperma—horse-radish tree

ORDER 116. VIOLACEÆ.

Noisettia orchidiflora

Calyptrion aubletii
Ionidium hybanthus
„ oppositifolium
„ viscidulum
Corynostylis hybanthus
„ benthamii
Alsodeia rinorea
„ racemosa
„ *tuliflora*
„ brevipes
„ saxiflora
„ castanœfolia
„ prunifolia
„ flavescens

ORDER 119. SAUVAGESIACEÆ.

Sauvagesia erecta
„ elata
„ aduna
„ senella
„ sprengelii

ORDER 120. CRASSULACEÆ—HOUSE LEEKS.

Bryophyllum calycynum—germinating leaf plant

ORDER 121. TURNERACEÆ.

Turnera ulmifolia
„ aurantiaca
„ rupestris
„ guianensis.
„ cistoides
„ surinamensis
„ subylabra
„ opivera
„ cœrulea
„ benthamiana
„ parviflora
„ corchorifolia
„ corchoroides
„ chamædrys,
„ refracta
„ surinamensis
Piriqueta villosa
„ lanceolata
„ stenophylla

ALLIANCE XXVII. CISTALES.—ORDER 123. BRASSICACEÆ.

Brassica oleracea — cabbage. Several species of cabbage are cultivated here, but they do not attain anything like the size of those in colder climates
Brassica rapa—turnip
Sinapis nigra—black mustard
„ alba—white ditto
Raphanus sativus — radish. Several species of radish are cultivated; they grow to a very large size, but are inferior in flavour to those in Europe
Raphanus radicula
„ oblongus
Sepidium virginicum—wild-pepper grass.
Nasturtium officinale—water cress
Cochlearia armoracia—horse radish
Iberis umbellata—candy tuft

ORDER 124. RESEDACEÆ—MIGNONETTES.

Reseda odorata—mignonette

ORDER 125. CAPPARIDACEÆ—CAPER PLANTS.

Cleome serrata
„ latifolia
„ frutiscens
„ pungens
„ pentaphylla—sambo
„ surinamensis
„ acubata ; also C. stenophylla
Cratæva gynandra—garlic pear tree
„ acuminata
Capparis torulosa—black willow
„ breynia—white willow
„ radiatiflora
Gynandropsis palmipes
Physostemon intermedium
Singana guianensis

ALLIANCE XXVIII. MALVALES.—ORDER 126. STERCULIACEÆ.

Adansonia digitata—monkey bread tree
Pentapetes phœnicea
Waltheria americana—dialthæa
„ integrifolia
Bombax ceiba—silk cotton tree
„ globosum
„ pentandrum
Carolinea princeps—wild chocolate tree
„ minor
Sterculia crinita
„ ivira
Myrodia turbinata—five-sprig tree
„ macrophylla
„ longiflora
„ multiflora
Ochroma lagopus—down tree
Melochia tomentosa

ORDER 127. BYTTNERIACEÆ.

Theobroma cacao—cocoa tree
„ bicolor
„ guazuma
Guazuma ulmifolia—bastard cedar
Pentaceros aculeatus
Ayenia tomentosa

Waltheria americana—buff coat
" indica
" viscosissima
" paniculata
" involucrata
" caesia
Buttneria scabra
" ramosissima
" obliqua
" divaricata
" uniglandulosa
Melochia tomentosa
" arenova
" lanceolata
" fasciculata
" graminifolia
" oblonga
" ulmifolia
" vestita
" apoda
" gracilis
" sparsiflora

ORDER 129. TROPEOLACEÆ—INDIAN CRESSES.

Tropeolum majus
" minus

ORDER 130. MALVACEÆ—MALLOWS.

Malvaviscus guianensis
Hibiscus elatus—tall hibiscus or mahoe
" verbasciformis
" hispidus
" bicornis
" mutabilis—changeable rose
" furcellatus
" sabdariffa—sorrel
" lambertianus
" rosa sinensis—Chinese hibiscus
" trilobus
" cannabinus—hemp-leaved hibiscus
" ingratus
" esculentus—ochro
" tiliaceus
" abelmoschus—wild ochro
" phœniceus—dwarf hibiscus
" vitifolius—vine-leaved hibiscus
" abutiloides—rope mangrove
Paritium tiliaceum
Gaya subtrilola
Fugosia campestris
" guianensis
Althea rosea—hollyhock
Sida trinervia
" foliosa
" sinifolia
" glomerata
" urens—stinging sida
Sida multiflora
" humilis—broom weed
" rhombifolia
" populifolia
" vellerea
" ritifera
Malachra capitala—bastard ochro
" radiata
" alcaefolia and squarrosa
Gossypium peruvianum — Peruvian cotton
" arboreum—tree cotton
" herbaceum—common cotton
" hirsutum—hairy cotton
" barbadense — Barbadoes cotton
" vitifolium — small cotton tree
Thespesia populnea — mahoe dye, or poplar tree
Abutilon spicatum
" lucianum
" lasiocarpum
Urena americana
" reticulata
" ribesia
Pavonia typhalæoides
" spinifex
" typhalea
" septocarpa
" surinamensis
" racemosa
" speciosa
" angerstifolia
" bracteosa
" viscida

ORDER 131.—TILIACEÆ—LINDEN BLOOMS.

Dasynema laurifolium
" obtusum
Corchorus siliquosus—broom weed
" acutangulus
" hirtus—rata ochro
Albania guianensis
Triumfetta lappula
" longipes
" hostmanniana
" eriocarpa
" althæoides
" surinamensis
Sloanea sinemarensis
" dentata
" massoni
" nitida
Apeiba hirsuta
" echinata
" glabra
" aspera
" lævis

Apeiba tibourbou
„ petoumo
Mollia guianensis
„ pubescens
„ speciosa
Vantanea guianensis
„ emarginata

ALLIANCE XXIX. SAPINDALES.—
ORDER 133. POLYGALACEÆ — MILKWORTS.

Polygala timoutou
„ adenophora
„ violacea
„ cinerea
„ modesta
„ diversifolia
„ hygrophila
„ stellera
„ longicaulis
„ variabilis
„ galioides
„ paludosa
„ mollis
„ angustifolia
„ camporum
Securidaca volubilis
„ marginata
„ virgata
„ incrassata
„ latifolia
„ sulcata
„ erecta
„ paniculata
„ pubiflora
Badiera diversifolia — bastard lignum vitæ
Bredemeyera lucida
„ bracteata
„ capitata
„ cuneata
Krameria ixina
„ spartioides
Trigonia macrocarpa
„ subcymosa
„ hypoleuca
„ macrostachya
„ lævis
„ villosa

ORDER 134. VOCHYACEÆ.

Erisma violaceum
„ floribundum
„ nitidum
Vochysia guianensis—itaballi tree
„ tetraphylla
„ lucida
„ curvata
„ glaberescens
„ tomentosa
Vochysia schomburgkiana
„ emarginata
„ fontanesii
Qualea rosea
„ cœrulea
„ mulleriana
Lightia guianensis

ORDER 136. SAPINDACEÆ—SOAPWORTS.

Sapindus saponaria—soap berry tree
„ surinamensis
„ arborescens
„ frutescens
Cupania reticulata
„ velutina
„ schomburgkii
„ quercifolia
„ affinis
„ retusa
„ subsinuata
„ dentata
Thouinia polygama
Cardiospermum carindum — black nicker
„ acuminatum
„ halicacabum — wild parsley
Serjania paucidentata
„ sinuata
„ baramensis
„ bignonioides
„ micrantha
Matayba guianensis
„ patrisiana
„ rouarana
Ophiocaryon paradoxium—snake nut
Paullinia cururu—bastard supple jack
„ diversiflora
„ barbadensis—Barbadoes supple jack
„ protracta
„ micropterygia
„ bipinnata
„ podocarpa
Melicocea bijuga—honey berry
Dodonœa viscosa—hop shrub
Talisia glabra
„ rosea
Urvillea pubescens
„ schomburgkii
Schmidelia guianensis
„ mollis
„ conduplicata
Lasianthemum unijugum
„ bijugum
Lamprospermum schomburgkii
„ guianense
Koernickea guianensis
Monopteris guianensis

ORDER 137. PETTIVERIACEÆ.
Pettiveria alliacea—guinea hen weed

ORDER 139. MALPIGHIACEÆ.
Heteropterys daphnoides
" lessertiana
" candolleana
" cristata
" biglandulosa
" eglandulosa
" macrostachya
" platyptera
Malpighia glabra—red cherry
" verbascifolia
" altissima—hardwood
" singularis
" punicifolia—Barbadoes cherry
" tuberculata
" urens—stinging cherry
" coccifera
Blephandra cordata
Byrsonima altissima
" hostmanni
" crassifolia
" coranthera
" coccolobæfolia
" ferruginea.
" pallida
" rugosa
" reticulata
" eripoda
" gymnocalycina
" propinqua
" spicata
" ceranthera
" cœlostachya
" staminea
" concinna
Banisteria fulgens—fireburn bush
" lobulata
" longifolia
" divaricata
" cristata
" corymbosa
" orbiculata
" martiniana
" calocarpa
Triopteris jamaicensis
" sericea
Hircea reclinata
" gracilis
" anisopetala
" simsiana
" blanchetiana
" fagifolia
" riedleyana
" fulgens
Brachypteris borealis
Coleostachys vestita
Pterandra latifolia
Spachea elegans
Sophopterys splendens
Stigmaphyllon hypoleucum
" sinuatum
" convolvulifolium
" periplocæfolium
" puberum
" latifolium
" purpureum
" fulgens
" diversifolium
Tetrapterys inœqualis
" crispa
" ovalifolia
" discolor
" puberula
" acutifolia
" fimbripetala
" glaberrima
" leucanthele
" surinamensis
Camara affinis
Bunchosia mollis

ORDER 140. ERYTHROXYLACEÆ.
Erythroxylon coca
" campestre
" passerinum
" citrifolium
" lineolatum
" mucronatum
" rufum
" amplum
" orinocense
" squamatum
" squarrosum
" ligustrinum
" roraimæ
" ectinocalyx
" surinamense

ALLIANCE XXX. GUTTIFERALES.—
ORDER 142. TERNSTROMIACEÆ.
Catostemma fragrans
Ternstrœmia dentata
" punctata
" rubicunda
" verticillata
" schomburgkiana
" crassifolia
" roraimæ
" longipes
" suborbicularis
" revoluta
Bonnetia cochlospermum
" sessilis
Lettsomia guianensis
Laplacea præmorsa
" semiserrata
Archytæa multiflora
Caraipa leirantha

Caraipa longifolia
„ latifolia
„ laxiflora
„ angustifolia
„ richardiana
„ parvifolia
Kielmeyera angustifolia
„ guianensis
Ochtocosmus roraima
Mahurea exstipulata
Cochlospermum orinocence
„ serratifolium
Godoya gemmiflora

ORDER 143. RHIZOBOLACEÆ.

Caryocar glabrum
„ villosum
„ nuciferum
„ tomentosum
Pekea butyrosa—butter tree
„ tuberculosa—saouari nut
„ vel caryocar butyrosa
Anthodiscus trifoliatus

ORDER 144. CLUSIACEÆ.

Renggeria guianensis
„ montana
Clusia alba
„ flava
„ rosea
„ insignis
„ venosa
„ macrocarpa
„ tetranda
„ nemorosa
„ fockeana
„ cuneata
„ quapoya
Moronobea coccinea
„ globuliflora
Quapoya pana
„ robusta
„ microphylla
„ ligulata
„ colorans
„ myriandra
Mammea americana—mammee apple
Havetia florida
Garcinia mangostana—mangostur tree
„ parviflora
„ macrophylla
Calophyllum calaba—bastard mammee
„ lucidum
Singana guianensis—balsam tree
Marialia guianensis
Tavomitia hameliæfolia
„ macrophylla
„ guianensis
„ schomburgkiana
„ umbellata

ORDER 145. MARCGRAVIACEÆ.

Marcgravia umbellata
„ spiciflora
„ coriacæ
„ acuminata
Ruyschia clusiæfolia
„ souroubea
„ lepidota
Norantea guianensis

ORDER 146. HYPERICACEÆ.

Hypericum bacciferum
„ sessilifolium
„ calycinum
Vismia guianensis—yellow dye
„ cayennensis
„ glabia
„ sessilifolia
„ acuminata
„ latifolia
„ angusta
„ schomburgkiana
„ sieberiana

ALLIANCE XXXI. NYMPHALES—NYMPHALS.

ORDER 148. NYMPHÆACEÆ—WATER LILIES.

Victoria regia—Victoria lily
Nymphæa ampla—white lily
„ blanda—large duckweed
„ micrantha

ORDER 149. CABOMBACEÆ—WATER SHIELDS.

Cabomba aquatica

ORDER 150. NELUMBIACEÆ—WATER BEANS.

Nelumbium jamaicense—broad Dutch weed
Heliamphora nutans

ALLIANCE XXXII. RANALES.

ORDER 152. ANONACEÆ—CUSTARD APPLES.

Anona xylopioides
„ squamosa—sugar apple
„ reticulata—custard apple
„ muricata—sour sop
„ palustris—monkey apple
„ ambota
„ cherimolia
„ longifolia
„ obtusifolia
„ punctata
„ hostmanni
„ chrysopetala
Xylopia frutescens

Xylopia glabia
„ muricata
„ salicifolia
„ sericea
Guattirea aberemoa—hardwood
„ schomburgkiana
„ podocarpa
„ vestita
„ brevipes
„ foliosa
„ ouregon
„ elongata
„ mundata
„ heteropetala
Duguetia quitarensis — yarri-yarri lancewood
Uvaria guatterioides
Rollinia exsicca
„ orthopetala
„ tinifolia
„ tenuifolia
„ multiflora

ORDER 153. DILLENIACEÆ.

Dillenia larmentosa
Doliocarpus rolandri
„ calinia
„ strictus
Tetracera tigarea—liane rouge
„ cuspidata
„ dentata
„ volubilis
„ rotundifolia
„ surinamensis
Davilla rugosa—a vulnerary
„ asperrima
„ elliptica
„ flexuosa
Curatella americana
„ alata

ORDER 154. RANUNCULACEÆ.

Clematis dioica
Helleborus niger—Christmas rose
Delphinium consolida—larkspur
Aconitum napellus—wolfsbane

ORDER 155. SARRACENICEÆ.

Heliamphora nutans

ORDER 156. PAPAVERACEÆ.

Argemone mexicana—yellow thistle

ALLIANCE XXXIII. BERBERALES.—
ORDER 160. VITACEÆ—VINES.

Vites vinifera—common grape
Cissus sicyoides—poison wyth
„ acida
„ puncticulosa—cayenne
„ trifoliata
„ ovata
„ lucida
„ erosa
„ quadrialata
„ hydrophora

ORDER 162. OLACACEÆ.

Ximenia inermis
„ americana
Heisteria cauliflora
Pogopetalum orbiculatum
„ acuminatum
Olax schomburgkii

ALLIANCE XXXIV. ERICALES.—
ORDER 164. HUMIRIACEÆ.

Myrodendron amplexicaule — hardwood
Humirium floribundum — umiri balsam
„ obovatum
„ guianense
„ densiflorum
„ balsamiferum
„ ellipticum
„ surinamense
Vantanea guianensis
„ emarginata

ORDER 169. ERICACEÆ.

Clethra tinifolia—bastard locust tree
„ guianensis
Gaultheria cordifolia
Thibaudia nutans
„ guianensis
„ formosa
Vaccinium puberulum
„ subcrenulatum
Hughsia guianensis
Befaria schomburgkiana
„ guianensis
„ grandiflora
Beckerathia guianensis

ALLIANCE XXXV. RUTALES.—
ORDER 170. AURANTIACEÆ.

Citrus aurantium—orange tree
„ limonum—lemon tree
„ limetta—bergamotte tree
„ lima—lime tree
„ medica—citron tree
„ vulgaris—golden orange

Citrus decumanus—shaddock tree
" hystrix—grape fruit tree
" buxifolia—forbidden fruit tree
" bigaradia—seville, or bitter orange
" spinosissima—cayenne orange
Triphasia limonia—myrtle lime
" trifoliata—sweet lime

ORDER 171. AMYRIDACEÆ—BALM TREES.

Amyris heterophylla vel icica
" heptaphylla—hyawa tree
" guianensis
" decandra
" ambrosiaca
" altissima—cedar wood
" toxifera
" balsamifera—gum elemi
" acuminata
" schomburgkii
Icica vel amyris enneandra
" tamacahaca
Bursera gummifera—turpentine tree
Trattinickia schomburgkii
" guianensis
Picramnia macrostachya

ORDER 172. CEDRELACEÆ—BASTARD CEDARS.

Swietenia mahogani—mahogany tree
Cedrela odorata—bastard cedar

ORDER 173. MELIACEÆ—BREAD TREES.

Melia azedarach—Barbadoes lilac
" sempervivens
Carapa guianensis—crab oil tree
Moschoxylum cuspidatum
" hostmanni
Guarea trichilioides
" grandiflora
" scabra
" affinis
" kunthiana
" aubletia
" guianensis
" pubescens
" costata
" megantha
Trichilia hirta
" geminata
" surinamensis
" brachystachya
Trichilia richardiana
" guianensis
" acuminata

ORDER 174. ANACARDIACEÆ.

Anacardium occidentale—cashew tree
" rhinocarpus
" giganteum—ouboudi
" guianensis—wild cashew
Mangifera indica—E. mango
Comocladia integrifolia—maiden plum
" dentata
Spondias dulcis—golden apple
" lutea—hog plum
" obovata
" purpurea—Spanish plum
" surinamensis
" mangifera—Chili plum
" longifolia
" guianensis
" macrophylla
" læta

ORDER 175. CONNARACEÆ.

Connarus pubescens
" schomburgkii
Omphalobium opacum
" lucidum
" perrotteti
" patrisii
" micranthum
" lampertii
" fasciculatum
" thonningii

ORDER 176. RUTACEÆ—RUE PLANTS.

Ruta graveolens—common rue
Galipœa trifoliata
" aromatica
Monnieria trifolia
Ticorea fœdita
" pedicellata
" longiflora

ORDER 177. XANTHOXYLACEÆ.

Xanthoxylon hermaphroditum—hardwood
" guianense
" clava—prickly yellow wood
" perrottetii
" pterota—bastard iron wood
" tragodes—fingrigo, or savine tree

ORDER 178. OCHNACEÆ.

Gomphia guianensis
" dura
" arguta
" jabotapita
" rupununiensis
" ovata
" laurifolia
Elvasia calophylla
Hostmannia elvasioides
Kunzmannia roraimæ
Scberosia apiculata
Gagernia essequiboensis

ORDER 179. SIMARUBACEÆ.

Simaruba versicolor
" amara
Quassia amara
" excelsa
Simaba guianensis—obovata
" aruba

ORDER 180. XYGOPHYLLACEÆ.

Guaiacum officinale—lignum vitæ
Tribulus cistoides
" maximus

ORDER 182. PODOSTEMACEÆ.

Mniopsis guianensis
Mourera partita
" fluviatilis
Lacis alata
Podostemon dichotomum
Ariadnea pectinata

ALLIANCE XXXVI. GERANIALES.—ORDER 185. OXALIDACEÆ.

Averrhoa bilimbi—bimbling
Oxalis punctata
" corniculata
" barrelieri
" floribunda
" hedysaroides
" plumierii

ORDER 186. BALSAMINACEÆ.

Impatiens balsamina—garden balsam

ORDER 187. GERANIACEÆ.

Geranium sanguineum.
" maculatum
" robertianum
Pelargonium

ALLIANCE XXXVII. SILENALES.—ORDER 188. CARYOPHYLLACEÆ.

Dianthus caryophyllus—clove pink
Dianthus barbatus — sweet William pink
" virgineus
" chinensis—Chinese pink

ORDER 189. ILLECEBRACEÆ—KNOT WORTS.

Illecebrum glomeratum
" diffusum
Drymaria cordata
" gracilis

ORDER 190. PORTULACEÆ—PURSLANES.

Portulacea oleracea—purslane
" halimoides
" parviflora—wild purslane
" pilosus—ditto
Talinum patens
" triangulare
" reflexum
" crassifolium
Sesuvium acutifolium
Mollugo verticillata
" schrankii

ORDER 191. POLYGONACEÆ.

Coccoloba uvifera—sea-side grape
" ovata
" nivea—chigery grape
" pubescens — leather coat tree
" stricta
" barbadensis — Barbadoes sea-side grape
" excoriata
" excelsa
" marginata
Rumex acetosa—sorrel dock
Triplaris schomburgkiana
" americana—long John
" surinamensis
Polygonum macrochætum
" acuminatum
Symmeria paniculata
Ruprechtia senuiflora
" brachystachya

ALLIANCE XXXVIII. CHENOPODALES.—ORDER 192. NYCTAGINACEÆ.

Pisonia aculeata
" obovata
" nigricans—beet wood tree
" ferruginosa
" guianensis
Bœrhavia diandra

Bœrhavia surinamensis
" diffusa
" decumbens
Mirabilis jalapa—four o'clock flower
" alba et flava
" dichotoma—marvel of Peru

ORDER 193. PHYTOLACCACEÆ.

Phytolacca dioica
" octandra
" decandra—Virginian spinach
Rivina humilis

ORDER 194. AMARANTACEÆ.

Amaranthus tricolor
" bicolor
" polygonoides — red caterpillar, or spotted leaves
" viridis — white caterpillar, or green amaranth
" spinosus—prickly caterpillar, or amaranth
" sanguinens — spreading amaranth
" caracesasanus
" hypocendriacus
Buchholzia brevipes
Gomphrena globosa — bachelor's-button
" polygonoides
" brasiliensis
Hebanthe guianensis
Celosia cristata
" tomentosa—cockscomb
" lappacea
" coccinea
Alternanthera ficoides
Microtea debilis
Sertunera guianensis
" schomburgkii
Achyranthes aspera
Pupalia densiflora
Chamissoa macrocarpa

ALLIANCE XXXIX. PIPERALES.—ORDER 196. PIPERACEÆ.

Acrocarpidium nummulariæfoliam
" repens
Piperomia acuminata
" pellucida
" velloziana
" melanostigma
" macrostachya
" trifolia
" quadrifolia
" angusata
" myosuroides
" distachya
" obtusifolia
" parkeriana
" obliqua—rock balsam
" polystachya—ditto
Heckeria peltata—monkey's hand
" umbellata — Santa Maria's leaf
Nematanthera guianensis
Arthante caudata
" catalpæfolia
" insignis
" augusta
" lessertiana
" asperifolia
" olfersiana
" adunca
" meyerii
" ulmifolia
" coryeifolia
" glabrescens
" avellana
" geniculata
" nitida
" tuberculata
" xanthocarpa
" berbicensis
" demerarana
" hostmanniana
" anonæfolia
" parkeriana
" encolyptifolia
" æqualis
" warakabacoura
" adenophora
" leprieurii
" microstachya
" augustifolia
" guianensis
" pedunculans
" hymenophylla
" salicifolia
" flexicaulis

Sub-class III.—*Perigynous Exogens.*

ALLIANCE XL. FICOIDALES.—ORDER 199. BASELLACEÆ.

Basella cordifolia—calalue
„ tuberosa

ORDER 200. MESEMBRYACEÆ—ICE PLANTS.

Mesembryanthemum crystallinum—ice plant
„ crassifolium
„ helianthoides
„ guinanense

ORDER 201. TETRAGONIACEÆ.

Tetragonia expansa
Sesuvium portulacastrum
„ longifolium

ALLIANCE XLI. DAPHNALES.—ORDER 203. THYMELACEÆ.

Hernandia guianensis
„ sonora—Jack in a box
Daphne mezereon
„ lagetta

ORDER 204. PROTEACEÆ.

Rhopala dentata
„ media
„ sessilifolia
„ complicata
„ montana
„ nitida
„ obtusata
„ schomburgkii
„ suaveolens

ORDER 205. LAURACEÆ.

Carapa guianensis vel xylocarpus carapa—crab oil
Nectandra nitidula
„ salicifolia
„ pallida
„ leucantha
„ rodici
„ sanguinea
Laurus rodici—beebeerini, or greenheart
„ cinnamomum
„ bullata—laurel oil
Oreodaphne opifera
„ parviflora—sweet wood tree
Oreodaphne glomerata
„ leucoxylon — loblolly tree
„ guianensis
„ costulata
„ caudata
„ fasciculata
„ schomburgkiana
Persea gratissima—avocado pear
„ leucantha
„ carolinensis
„ sanguinea
„ caryophyllata
Acrodiclidium camara—ackawai nutmeg
„ aciphyllum
„ jamaicense
Mespilodaphne pretiosa
Aydendron firmulum
„ riparium
„ oppositifolium
„ hostmannianum
Goeppertia reflectens
Lasiadenia rupestris
Goodallia guianensis
Cassyta americana
Andripetalum rubescens

ALLIANCE XLII. ROSALES.—ORDER 208. CHRYSOBALANACEÆ.

Chrysobalanus icaco—cœva plum
„ guianensis
„ pellocarpus
Parinarium brachystachyum
„ campestre
„ coriaceum
„ montanum
Conepia guianensis
Moquilea comosa
„ guianensis
„ multiflora
„ parilla
„ bracteosa
Petrocarya montana
„ campestris
Acioa dulcis
Hedyerea incana
Hirtella americana
„ hexandra
„ bullata
„ paniculata
„ scabra

Hirtella rubra
" roraimæ
" eriandra
" violacea
" strigulosa
" glaberrina
" bracteosa
" cognata
" hostmanniana
" hirsuta
" glandulosa
Licania pendula
" aperta
" floribunda
" pubiflora
" leptostachya
" coriacea
" divaricata
" heteromorpha
" flavicans
" odorata
" guianensis
" mollis
" crassifolia
" macrophylla
" rufescens
" schomburgkii

ORDER 209. FABACEÆ—LEGUMINOUS PLANTS.—SUB-ORDER 1. PAPILIONACEÆ.

Lupinus varius
" lutæus
Crotalaria verrucosa — blue shake shake
" incanescens—battle bush
" lotifolia—coot weed
" retusa — wedge-leaved lupin
" sagittalis
" elentheria
" glabea
" paramariboensis
" nitens
" guianensis
" anagyroides
" genistella
" stipularis
" leptophylla
Indigofera tinctoria—E. I. indigo
" anil—wild indigo
" pascuorum
Sabinea florida
Sesbania occidentalis
Agati grandiflora
Agati coccinea
Pisum sativum—English peas
Lathyrus odoratus—sweet pea
Arachis hypogæa—ground nut
Phaseolus lathyroides—kidney bean
" semi erectus—ditto
" longipedunculatus
" viscillatus—kidney bean
" vulgaris—French bean
" multiflorus—scarlet
" perennis—lima
" conspicuus
" lunatus—sugar bean
" stenophyllus
" mungo—woolly pyrol
" adenanthus
" lasiocarpus
Vigna glabra
Collæa rosea—rouncioal peas
Dioclea guianensis
" lasiocarpa
Dolichos luteus—monkey's peas
" sinensis—clay, or red peas
" barbadensis
" ensiformis—horse bean
" filiformis
" sesquipedalis—Halifax peas
" spurius
" unguiculatus—cuckold's increase
" tribracteatus
Lablab vulgaris—bonny vis. (buona vista)
" cultratus—buona vista
Alysicarpus miquelianus
Desmodium repens—wood sorrel
" supinum—iron vine
" canescens
" spectabile
" spirale
" radicans
" glaucescens
" incanum
" rubiginosum
" cinereum
" elatum
" racemosum
" cajanæfolium
" guianense
" ancistrocarpum
" asperum
" obovatum
" triflorum
" viscidulum
" benthamianum
Lourea vespertilionis

Aeschynomene americana
" conferta
" trisperma
" ciliata
" sensitiva
" paniculata
" sulcata
" hystrix
" paucijuga
Hedysarum argenteum.
" racemosum
" incamum
Zornia reticulata
" latifolia
" gracilis
" surinamensis
Clitoria virginiana—wild pea
" arborescens
" centrale
" ternatea—blue vine
" braziliensis
" angustifolia
" poitæi
" volubilis
" uncinatus
Mucuna pruriens—cow itch vine
" urens—ox eye bean
" comosa
" spuria
Erythrina corallodendron—coral bean tree
" speciosa
" glauca
" peltata
" inermis
Cajanus indicus—pigeon pea tree
" flavus—ditto
Eriosema rufum
" lanceolatum
" violacem
" crinitum
" pulchellum
Rynchosia minerva—wild pea vine
" punctata
Abrus precatorius—wild liquorice
Ecastophyllum broroncei
" monetaria
" benthamianum
Lonchocarpus violacens—Spanish ash
" floribundus
" nicou—hy. yarri
" pterocarpus
" latifolius
" hedyosmus
Pterocarpus lunatus—corkwood
" rohrii
Pterocarpus draco
Pterodon macrophylla
Dipteryx odorata—tonquin bean
" oppositifolia
" coreacea
Drepano-carpus lunatus
" inundatus
" falcatus
" ferox
Andira anbletii
" laurifolia
" inermis
" racemosa
Centrolobium robustum
Geoffroya spinosa
" violacea
Ormosia v. robinia coccinea
" tomentosa—hard-wood
" histophyllia
Vataiera guianensis
Trioptolema riparia
Deguelia scanden
Tephrosia cinerea—fish poisons
" toxicaria
" gynothrix
" brevipes
" penicillata
" schomburgkii
Medicago arborea
Stylosanthis angustiflora
" surinamensis
Dalbergea monetaria—money bush
Eperua v. dimorpha falcata—wallaba wood
" grandiflora
Elisabetha coccinea
Galiga caubœa
Glycina subtinanea
Machærium schomburgkii — itaka wood
" affine
" leiophyllum
" nervosum
Diolicon divaricatum
Mullera moniliformis
Amphymenium spicatum
" laxum
" cordatem, reticulatum, latifolium
" nitidum, tenuifolium
Nisolea ferruginea
" odorato
Nicolsonia cajennensis
" major
" radicans.

Nicolsonia barbata
Copaifera pubiflora—purple heart
,, guianensis
,, officinalis
Piratinera vel brosimum aubletii—letter wood
Kennedya vel centrosema
Neurocarpum guianense, longifolium, cajennæfolium
,, flagellare, speciosum
Centrosema brazilianum, plumierii
,, virginianum—wild pea
,, verticillatum
,, macrocarpum, perspicuum, sordidem, vestitum
Galactia mollis—silver vine
,, velutina
Canavalia ensiformis—horse bean
Campsiandra comosa
Tachigalia puliflora
,, paniculata
Outea multijuga
,, acaciæfolia
Macrotrullion splendens
,, elegans
Stipellaria mollis
Bollea guianensis

SUB-ORDER 2. CÆSALPINEÆ.

Arachis hypogæa—ground nut
Bauhinia angulata
,, scandens
,, guianensis
,, tomentosa—downy mountain ebony
,, cumanensis
,, macrostachya
,, outimenta
Schnella rubiginosa
,, splendens
,, brachystachya
,, longipetola
,, rosea
Brownea ondecandria
,, coccinea
,, racemosa
Etaballia guianensis
Tamarindus indica—tamarind tree
Hymenea courbaril — locust tree — yields the resin anime
,, venosa
Cassia apoucouita
,, richardiana
Cassia viscosa
,, ramosa
,, parkeriana
,, uniflora
,, polystachya
,, ornata
,, quinquangularis
,, baccilani
,, fookeana
,, arborea
,, crysotricha
,, polyphylla
,, venenifera
,, califolia
,, quinquangulata
,, hirsuta
,, hispida
,, disadena
,, arosoanna
,, undulata
,, biflora
,, annulata
,, filipes
,, obtusifolia
,, lotoides
,, brazilianæ
,, pulchra
,, diphylla
,, cultrifolia
,, glandulosa
,, prostrata
,, fistula
,, pastellaria
,, alata
,, occidentalis—stinking weed
,, chamæchrista—wild tamarind
,, acuminata
,, mariginata
,, multijuga
,, moschata
,, obtusifolia—Italian senna
,, trinitatis
,, venenifera
,, calliantha
,, absus
Hæmatoxylon campechianum — log-wood
Penhinsonia aculeata—holy thorn
Guilandina bonduc—nicker tree
Leptolobium nitens
Cæsalpina vel poinciana pulcherrima —Barbadoes pride
,, coriaria—divi-divi
Amorphocalyx roraimæ
Dimorphandra macrostachya, latifolia
Cynometra schomburgkii

Cynometra guianensis
,, hostmanniana
,, parrifolia
Crudyia aromatica
,, spicata
,, parivoa
,, falcata
Amherstia nobilis ?

Sub-order 3. Mimoseæ.

Swartzia triphylla
,, alata
,, grandifolia
,, primata
,, tomentosa
,, bifida
,, microstylis
,, latifolia
,, aptem
Vouapa spherocarpon
,, bifolia
,, simira
,, staminea
,, elegans
Alexandra imperatricis
Mora excelsa
Prosopis algaroba—chica drink tree
Pentaclethra filamentosa
Endata polyphylla
,, polystachya
,, myriadenia
Piptadenia guianensis
,, suaveolens
,, aspidioides
,, polystachya
,, peregrina
Pithecolobum macrostachyum
,, trapegifolium
,, benthamianum
,, lasiopus
,, cauliflorum
,, ferruginem
,, adianthifolium
,, multiflorum
,, corymbosum
,, pubescens
,, glomeratum
,, schomburgkii
,, pedicellare
Acacia odoratissima
,, horrida—nemhem
,, glauca
,, latisiliqua
,, tortuosa—twisted acacia
,, polyphylla
,, guianensis
Acacia paniculiflora
,, westiana
Calliandra surinamensis
,, stipulacea
Schrankia brachycarpa
Mimosa pudica—sensitive plant
,, litigosa
,, viva
,, paniculata
,, asperata
,, micracantha
,, polydactyla
,, microcephala
,, bournoni
,, acacioides
,, schomburgkii
,, hostmanni
Inga purpurea—purple inga
,, vera
,, bourgoni
,, pubiramea
,, bractiosa
,, gladiata
,, unguis cati — mangrove bead tree, or bread and cheese
,, setifera
,, myriantha
,, laterifolia
,, sciddion
,, hymenoides
,, sertulifera
,, umbellifera
,, heterophylla
,, fœtida
,, gracilifoliosa
,, coruscans
,, pezizifera
,, latifolia
,, marginata
,, sapida
,, allican
,, corymbifera
Inga vel Parkia biglobosa
,, linnifolia
,, acrocephala
,, disticha
,, ruliginous
Desmanthus lacustris
,, depressen
,, pilosis cula
,, virgatus—large sensitive plant
,, plenus
Neptuna surinamensis
Adenanthera pavonina — Circassian bead tree

Adenanthera falcata
„ vel entacta scandens
„ polyphylla
„ myriadenia

ORDER 210. DRUPACEÆ—ALMONDS.

Cerasus vel prunus occidentalis — black cherry tree

ORDER 211. POMACEÆ—APPLEWORTS.

Malus—apple
Pyrus—pear

ORDER 213. ROSACEÆ.

Rosa—rose
„ moschata—musk rose
„ indica — common ever-bearing rose
„ bracteata—Austrian rose
„ damascena—damask rose
„ centifolia—dog rose
„ moss rose
Fragaria—strawberry

ALLIANCE XLIII.—SAXIFRAGALES.

—ORDER 215. HYDRANGEACEÆ.

Hydrangea hortensia — changeable hortensia

ORDER 218. LYTHRACEÆ.

Lawsonia alba alba—St. Domingo mignonette
Cuphea melvilla
„ balsamona
„ micrantha, antisiphylitica, rigidula, parviflora
Crenea maritima
„ repens
Lagerstroemia indica—king of flowers
„ regina—queen of flowers
Dodeca surinamensis
Ginoria americana
Maja hypericoides

ALLIANCE XLIV. RHAMNALES.—ORDER 221. ULMACEÆ.

Celtis micranthea
Sponia vel celtis mollis

ORDER 222. RHAMACEÆ.

Rhamnus surinamensis
Ceanothus colubrinus — Bahama red wood
Gonania domingensis—chaw-stick
„ virgata
Zizyphus jujuba—dunk, or mangustine

ORDER 223. CHAILLETIACEÆ.

Japura guianensis

ORDER 224. HIPPOCRATACEÆ.

Hippocratea obcordata
„ discolor
„ lævigata
„ schomburgkii
„ ovata
„ emarginata
„ malpighiæfolia
Tontelea polyantha
„ scandens
Salacia guianensis

ORDER 225. CELASTRACEÆ.

Goupia glabra
„ tomentosum
Maytenus guianensis
Stachyanthemum schomburgkii

ORDER 227. SAPOTACEÆ.

Achras sapota—sapodilla tree
„ zapotilla—sappadilla, or star apple
Sideroxylon acuminatum
„ ellipticum
„ micranthum
„ cuspidatum
„ durum
„ guianense
Lucuma mammosa—mammee
Mimusops sieberi
„ balata
Bumelia nigra—bulberry tree
„ salicifolia—white bully tree
„ nervosa—green star apple
„ mastichodendrum—mastick tree
Pouteria guianensis
Chrysophyllum cœruleum—blue star apple
„ schomburgkianum
„ jamaicense — green star apple
„ macoucou
„ cainito—star apple
„ cuneifolium
„ angustifolium
„ glabrum — callimato tree

Chrysophyllum splendens
" guianensis
" sparsiflorum

ORDER 228. STYRACEÆ.

Symplocos ciponima
" schomburgkii
Styrax guianense
" psilophyllum
" subleprosum

ALLIANCE XLV. GENTIALES.—
ORDER 229. EBENACEÆ.

Diospyros virginiana — date plum tree
" ebenus
Paralea guianensis—hardwood
Labatia pedunculata

ORDER 230. AQUIFOLIACEÆ.

Ilex macoucoua
" thyrsiflora
" celastroides
" umbellata
" vaccinifolia
" laurina
" retusa
" schomburgki
" martiniana
" lanceolata

ORDER 231. APOCYNACEÆ — DOG CANES.

Cameraria punica
" latifolia
" tamaquarima
" angustifolia
Couma guianensis
Antonia pilosa
Willughbeia vel pacouria acida
" " " scandens
" " " guianensis
Allamanda cathartica — wild gamboge?
" setulosa
Rauwolfia tomentosa
" micrantha
" canescens
" nitida
Cerbera thevetii—French willow
"
Vinca rosea—periwinkle, or old maid
Odontadenia speciosa
Odontadenia cordata
" angustifolia
Peschiera surinamensis
Malouetia tamaquarina
" odorata
" obtusifolia
" gracilis
" puberula
" guianensis
Thyrsanthus schomburgkii
" gracilis
Aspidosperma excelsum
Hæmadictyon grandiflorum
" cayennense
" annulare
Forsteronia spicata
" corymbosa
" floribunda
" laurifolia
" schomburgkii
Prestonia latifolia
" ipomæfalia
Echites biflora
" macrostoma
" rugosa
" symphitocarpa
" hirsuta
" brachystachya
" nitida
" macrophylla
" syphilitica
" rubricaulis
" sucida
" subcarnosa
" benthami
" tubulosa
" guianensis
" prieurii
" coriacea
" paludosa
" subspicata
" tomentosa
" schomburgkii
" hostmanni
" elegans
" trifida
" puncticulosa
Tabernæmontana utilis—milk tree
" heterophylla
" echinatus
" longifolia
" coronaria — rose bay
" undulata
" rupicola
" alba

Tabernæmontana guianensis
" sessilifolia
" bicolor
" grandiflora
Plumieria rubra—red franchipan
" attenuata
" alba—white franchipan
Nerium oleander—oleander
" odorum
Aspidosperma excelsum
Bonyunia superba
Strychnos pseudoquina
" erichsonii
" toxifera—ourari, or wourali poison
" cogens
" schomburgkiana
" rhecioides
" mittscherlichii
Rouhamon guianense
" pedunculatum
" divaricatum

ORDER 232. LOGANIACEÆ.

Spigelia anthelmia—worm grass
" marilandica—pink root
" nervosa
" polystachya
Pagamea guianensis
Potalia amara
" resinifera

ORDER 236. GENTIANACEÆ.

Lisianthus grandiflorus
" schomburgkii
" cæruleus
" purpureus
" chelonoides
" purpurascens
" uliginosus
" alatus
" pendulus
Coutoubea racemosa
" reflexa
" spicata
" densiflora
" ramosa
Voyria rosea
" acuminata
" cærulea
" clavata
" corymbosa
" aurantiaca
" uniflora
" nuda
Tachia guianensis—ant's nest tree
Tachia purpurascens
" alatus
Exacum guianensis
Villarsia humboldtii
Schultesia aubletii vel sebæa guianensis
" stenophylla
" brachyptera
" benthamiana
" subscrenata
" neuroptera
" heterophylla
Schuebleria tenella
Limnanthemum humboldtianum
Leiothamnus Elisabethæ
Irlbachia cærulescens

ALLIANCE XLVI. SOLANALES.—ORDER 238. SOLANACEÆ.

Solanum melongena—egg plant
" nigrum—branched culalue
" rodschiedii
" mammosum—nipple nightshade
" jacquini—bachelor's pear
" igneum
" fera
" lingiflorum
" cumifolium
" rubiginosum
" scandens
" tegore
" stramonifolium
" erythrocarpum
" scaforthianum—St. Vincent lilac
" torvum—small red trubba
Capsicum annuum—bell pepper
" tetragonum—bonnet pepper
" cerasiforme—cherry pepper
" longum—long pepper
" convideum—negro pepper
" baccatum—bird pepper
" frutescens—spur pepper
" globiferum
Datura stramonium—thorn apple
" arborea " "
Physalis barbadensis—pop vine
" angulata—pops
Petunia violacea — petunia
" phenicea "
" tryctaginiflora "
Nicotiana tabacum
Cestrum nocturnum—lady of the night

Cestrum laurifolium—wild calabash
Lycopersicun esculentum—tornatos

ORDER 239. ASCLEPIADACEÆ.

Asclepias curassavica — wild ipecacuanha
" augustissima
Olympusa tomentosa
Calotropis gigantea—auricula tree
" procera
Chrysosthemis ovata
Sarcostemma swartzeunum — down vine
" clausum
Telesilla cynanchioides
Cynanchum grandiflora
" mucronatum
Macroscepis guianensis
Hoya carnosa—wax flower
Orthosia paniculata
Metastelma macrophyllum
" guianensis
" campanulatum
" stenolobum
" parvifolium
" stendelianum
Gonolobus vindiflorus
" grandiflorus
" glaber
Tassadia guianensis
" leptobotrys
" propinqua

ORDER 240. CORDIACEÆ.

Cordia sebestena vel myxa—scarlet cordia
" guianensis—table tree
" schomburgkii
" collococea
" melanoneura
" micrantha
" heterophylla
" nervosa
" aubletii
" nodosa
" rufa
" flaviscens
" umbraculifera
" scabrifolia
" bicolor
Varronia curassavica—black sage
" alba—loblolly tree
" martinicensis

ORDER 241. CONVOLVULACEÆ.

Convolvulus glaber
Convolvulus dissectus—noyeau vine
" hederaceus
" umbellatus—hog vine
" braziliensis — sea-side ditto
" speciosum — cephalic ditto
" batatas—sweet potatoes
" guianensis
" ciliatus
" quamoclit—Indian pink
Quamoclit vulgaris—Barbadoes pink
" solanifolia
" coccinea
Ipomea coccinea
" setifera
" bona nox — night-blooming convolvulus
" miqueliana—sea-side vine
Maripa scandens
" erecta
" cordifolia
" densiflora
Lysiostyles scandens
Batata cissoides
" acetosæfolia
" glabra
" paniculata
Aniseia martinicensis
" ensifolia
Jacquemontia violacea
" hirsuta
Prevostea sericea
Cuscuta americana
" leiolepsis
" puberula
Rivea exaltata
Mouroncoa violacea
Ipomea maritima
" tuberosa
" purpurea
" demerariana
" sinuata—noyeau vine
" umbellata
" tamnifolia
" guianensis
" sturensis
" fastigiata
" surinamensis
" pandurata
" parkerii
" junela
" schomburgkii
Evolvulus nummularius—wild penny royal
" latifolius

Evolvulus glomeratus
" sericens
" alsinoides
" linifolius
" guianensis
" brevipedicellatus

ALLIANCE XLVII. CORTUSALES.—
ORDER 245. PLUMBAGINACEÆ.

Plumbago rosea
" scandens
" occidentales

ORDER 246. PLANTAGINACEÆ.

Plantago media—English plantain
" bicarinata

ORDER 247. PRIMULACEÆ.

Schwenkia americana
Primula vulgaris—primrose
" auricula—auricula
" veris—cowslip

ORDER 248. MYRSINACEÆ.

Arrindellia punctata
Jacquirnia obovata
" armillaris
Badula schomburgkiana
Weigeltia guianensis
Ardisia acuminata
" coriacea
" rufa
Myrsina salicifolia
" rapanea
" icacorea
" roraimæ
Conomorpha guianensis
" laxifolia
" robusta
Grammadenia lineata
Cybianthus crotonoides
Clavija ornata

ALLIANCE XLVIII. ECHIALES.—
ORDER 249. JASMINACEÆ.

Jasminum officinale
" sambæ—Arabian jasmine
" fruticans
" odoratissimum

ORDER 251. EHRETIACEÆ.

Heliotropium indicum
" curassavicum—wild lavender
" gnaphaloides—sea-side laurel, or lavender
Heliotropium humile
" parviflorum — wild clary.
" peruvianum
" latifolium
" helophilum
Tournefortia volubilis—soldier bush
" floribunda
" bicolor—basket wyth
" schomburgkii
" obscura
" surinamensis
" levigata
" meyeri
" hostmanni
Heliophytum indicum
" passerinoides

ORDER 255. LAMIACEÆ.

Hyptis globifera vel brevipes
" lantanæfolia
" recurvata
" atrorubens
" capitata—wild hops
" simplex
" pectinata—wild spikenard
" radiata—white spikenard
" suaveolens
" spicata
" brevipes
" membranacea
" laciniata
" paludosa
Ocimum basilicum—garden basil
" americanum—wild basil
" micranthum
Lavandula—several species
Mentha viridis—spear mint
" piperita—peppermint
" pulegium—pennyroyal
Salvia officinalis—garden sage
" splendus
" occidentalis
" formosa
Rosmarinus officinalis—rosemary
Origanum majorana—sweet marjoram
Thymus vulgaris—garden thyme
Scutellaria purpurascens
Nepeta cataria—cat mint
Leonurus sibiricus
Stachys
Leonotis nepetæfolia
Leucas
Marsypianthes hyptoides
" viscosa
" squarrosa

ORDER 256. VERBENACEÆ.

Clerodendron fragrans
„ capitatum
„ siptronanthus
„ longicolle
„ venucosum
Duranta ellisia
„ inermis
„ macrocarpa
Lantana involucrata—white sage
„ siliæfolia
„ aculeata
„ trifolia
„ purpurea
„ annua
„ flava
„ odorata
„ canescens
„ camara—piaba, or rock sage
Vitex schomburgkiana
„ umbrosa
„ triflora
Tamonea curassavica
„ mutica
„ verbenacæ
„ spicata
Petrea volubilis
„ erecta
„ macrostachya
„ schomburgkiana
Stachytarpheta resitata
„ elatior
„ mutabilis
„ jamaicensis—vervain
„ cayennensis
Volkameria aculeata—privet bush
Piva lappulacea—bung vervain
Citharexylon odoratum — fidele, or fiddle wood tree
„ quadrangulare
„ cenereum
Lippia schomburgkiana
„ geminata
„ stoechadifolia
Verbenea rosea
„ lamberti
„ chamædrifolia
Ogyphila arborescens
„ levis
„ martinicensis
„ diffusa
„ cuspidata
„ salutaris
„ mollis
Amasonia vel talygala panicea
„ erecta

ORDER 257. MYOPORACEÆ.

Avicennia nitida—courida tree
„ tomentosa — dwarf mangrove tree
Bontia daphnoides—wild olives

ALLIANCE XLIX. BIGNONIALES.—ORDER 259. PEDALIACEÆ.

Sesamum indicum
„ orientale—oil plant
Martymia lutea
„ proboscidæ

ORDER 260. GESNERACEÆ.

Columnea scandens
Gloxinia speciosa
„ alba
„ maculata
Tussacia villosa
„ rupestris
Besleria coccinea
„ laxiflora
„ incarnata
„ lutea
„ violacea
„ cristata
Episcia mimuloides
„ pulchella
Gesneria tribiflora
„ tomentosa
„ acaulis
„ schomburgkiana
„ elongata
„ guianensis
„ aggregata

ORDER 261. CRESCENTIACEÆ.

Crescentia cujete—calabash tree
„ cucurbitina

ORDER 262. BIGNONIACEÆ.

Bignonia alba
„ decomposita
„ æquinoctialis
„ alliaceæ
„ chondrogona
„ caudicans
„ stricta
„ chirere
„ paniculata
„ chrysanthia
„ crysophilla
„ echinata
„ fluviatilis
„ surinamensis
„ gracilis

Bignonia tubulosa
" incarnata
" latifolia
" elongata
" laurifolia
" triphylla
" leucoxylon
" mollis
" variabilis
" unguis—Barbadoes trumpet flower
" heterophylla
" copaia vel procura
" chica—carivarem
" mycrocalyx
" hostmanni
" parkeri
" inequalis
Jacaranda ovalifolia — waakenaam lilac
" silicifolia
" braziliana
" obtusifolia
Spathodea schomburgkii
Zeyheria surinamensis
Tecoma incisa
" stans
" leucoxylon
" floccosa
" splendida
" salzmanni—white cedar
Sesamum indicum—oil plant
" grandidentatum
" sudentatum
" subindivisum
" occidentale
Macfadyena uncinata
Tabebuia latifolia
" rufinervis
" fluviatilis
" macrophylla
" ovata
Arrabidæa schomburgkii
" cordifolia
" pruinosa

ORDER 263. ACANTHACEÆ.

Rhytiglossa cajennensis
Justicia picta
" comata
" speciosa
" cocinea
" pectoralis—garden balsam
" polystachya
" variegata
" secunda
Justicia pumila
" nodosa
" nitida
" adhatoda
" gendarussa
Leptostachya martiana
Diptera-canthus microcalyx
Crossandra speciosa
" infundibuliformis
Mendoncia schomburgkiana
" hoffmanseggiana
" puberula
" aspera
Ruellia tuberosa
" vindex
" violacea
" gigantea
" clandestina—nenow weed, or spirit weed
" alopecuroidea
" formosa
" strepens
" fulgida
" fœtida
Hygrophila guianensis
Cryphiacanthus barbadensis
Thunbergia fragrans
" coccinea
" alata
Anhostoxylum rubrum
Eranthemum bicolor
" fœcundum
" nervosum
" spinosum
Beloperone schomburgkiana
" calycina
Dicliptera resupinata
" retusa
" ciliaris
" hexangularis
Stemonacanthus humboldtianus
" radicans
Aphelandra pulcherrima
" pectinata
" acutifolia
Thyrsacanthus schomburgkianus

ORDER 264. SCHROPHULARIACEÆ

Vandellia diffusa—bitter blain
" haimaracla
" crustacea
" prostrata
" diffusa
Conobea aquatica
Angelonia salicariæfolia
" viola

Beyrichia ocqmoides
Capraria liflora
Buchneria palustris
„ rosea
Scoparia dulcis
Torenia parviflora
Buddlea braziliensis
„ heterophylla
„ globosa
Alectra braziliensis
Micranthemum orbiculatum
Russelia junca—Madeira heath
Stemodia foliosa
Browallia elata
Herpestis chameedrifolia
„ gratioloides
„ amplexifolia
„ flexilis
Brunsfelsia americana
„ guianensis
„ angustifolia
„ schomburgkii
„ latifolia
„ montana
Digomphia laurifolia
Matourea pratensis
Gratiola virginiana
Schwenkia grandiflora
„ chenopodiacea
„ hirta
„ guianensis
Gerardia hispidula
Bacopa aquatica

Order 265. Lentibulariaceæ.

Utricularia longissima
„ pusilla
„ puberula
„ guianensis
„ muscosa
„ angulosa
„ spatulata
„ obovata
„ subulata
„ humboldtii
„ purpurea
„ stricta
„ myriocista
„ oligosperma
„ parkeriana
„ tenuifolia
Genlisea
Polypompholyx schomburgkii
„ bicolor

Order 267. Lobeliaceæ.

Centropogon surinamensis
Lobelia domingensis

Order 268. Goodeniaceæ.

Isotoma vel lobelia longiflora—small lobelia

Alliance L. Campanales.—Order 273. Asteraceæ.

Baccharis septocephala
„ roraima
„ guianensis
„ nitida
Pterocaulon spicatum
„ alopecuroideum
Riencourtia glomerata
Latreillea glabrata
„ integrifolia
Clibadium surinamense
„ schomburgkii
„ asperum
„ erosum
Unxia camphorata
„ hirsuta
Ambrosia artemisiæfolia
Bidens pilosa
„ leucantha
„ coreopsidis
„ bipinnata
Porophyllum ellipticum
„ latifolium
Gnaphalium schomburgkii
„ americanum
„ simplicicaule
Sparganophorus vaillantii
Pacourina edulis
Vernonia opaca
„ scorpioides
„ gracilis
„ remotiflora
„ tricholepis
„ dichocarpha
„ schomburgkiana
„ decantha
Centratherum muticum
Conyga myosotifolia
Calea divaricata
Achyrocline vargasiana
„ slaccida
Dermatophyllum schomburgkii
Gongylolepis benthamiana
Leria nutans
Cacalia coccinea
Eupatorium odoratum — Christmas bush
„ trifolium
„ molle
„ parviflorum
„ conyzoides
Ageratum cæruleum

Ageratum conyzoides — hairy ageratum
„ guianense
„ superflora
Elephatopus scaber et mollis
Calendula officinalis—common marigold
Fagetus erecta
„ patula—French marigold
„ tenuifolia — Peruvian marigold
Cosmus lispinnatus
Trixis aspera
„ auriculata
Spilanthes poeppigii
„ exasperata
Verbesina pinnatifida et nodiflora et hileanthoides schomburgkii
Siegsbeckia flosculosa
Xanthium
Coreopsis reptans
Artemisia absinthium—worm wood
Ponthenium hysterophorus — wild worm wood
Pectis elongata
Rolandra argentea
Mikania guaco—Venezuela guaco
„ hookeriana
„ amara
„ denticulatum
„ hastata
„ convolvulaceæ
„ parkeriana
„ scandens
„ genoclada
„ racemulosa
„ fockeana
„ aspera
„ scabra
„ atriplicifolia
„ argyrostigma
Baillera aspera—fish poison
Tussilago mitans
Synedrella nodiflora
Aster chinensis—china aster
Lavenia decumbens
Helianthus annuus—sunflower
„ tuberosus — Jerusalem artichoke
Chrysanthemum siriense — chrysanthemum
Wedelia hispida
„ lanceolata
„ scobinima
„ discordia
Callistephus chinensis—china aster
Lactuca lativa—lettuce
Sinchus ciliatus
Trinchinettia caleoides
Eclipta erecta
„ prostrata
„ platyglossa
„ stenoglossa

ALLIANCE LI. MYRTALES.—ORDER 274. COMBRETACEÆ.

Terminalia catappa—Indian almond tree
„ pamsa
„ mauritiana
„ latifolia
„ tanibouca
Bucida buceras—French oak
„ angustifolia
Conocarpus racemosa—mangrove?
„ erectus—Jamaica button tree
Cacoucia vel schousbæa coccinea
Combretum elegans
„ laxum
„ aubletii
„ obtusifolium
„ glabrum
„ puberum
„ aurantiacum
„ guianense
„ punctatum
„ serminaliaoides

ORDER 278. ONAGRACEÆ.

Fuschia coccinea
Jussiæa linifiora
„ affinis
„ acuminata
„ nervosa
„ variabilis
„ latifolia
„ repens
„ torulosa
„ octonervia
„ erecta
„ octofila
„ dodecandra
„ pilosa
„ linifolia
„ palustris
„ hexamera
„ sterophora
Ænothera?

ORDER 279. RHIZOPHORACEÆ.

Rhizophora mangle—mangrove

Rhizophora gymnorhiza
„ racemosa
Cassipourea serrata
„ guianensis

ORDER 281. MELASTOMACEÆ.

Melastoma rubra
„ pupurea
„ racemosa
„ grandiflora
„ succosum
„ agreste
„ rufescens
„ elegans
„ parviflora
„ phyllopus
„ tococa
„ mayeta
„ alata
„ prasinum
„ spondylanthen
Chætogastra hypericoides
„ aubletii
„ gracilis
„ glomerata
„ callichæta
„ villosum
„ divaricata
„ ladanoides
„ campestris
„ radulæfolia
„ maculata
Clidemia spicata
„ pustulata
„ surinamensis
„ crenata
„ paucifoliosa
„ bullosa
„ rubra
„ hirta
„ agrestis
„ umborrata
„ capitata
„ rariflora
Loreya arborescens
Blakea quinquinerva
„ trinerva
„ parasitica
Chænoplema hypolenca
Rhexia villosa vel aspera
„ tascifolia
„ recura
„ bicolor
Phynchantera adenophosa
Tococa guianensis—ink tree
„ roraima
Tococa coronata
„ truncata
„ lanata
„ subnuda
„ aristata
„ planifolia
Salpinga secunda
„ paniflora
Miconia decussata
„ ciliata
„ obtusifolia
„ longifolia
„ tomentosa
„ schomburgkii
„ fallax
„ longifolia
„ heterochroa
„ pleropoda
„ lodophilia
„ macrophyllia
„ longistylia
„ nitens
„ alata
„ brevipes
„ purpurascens
„ myriantha
„ pterophora
„ hypargyrea
Comolia microphylla
„ veronicæfolia
Mouriria guianensis
„ myrtiloides
Microlicia buifolia
„ bivalvis
„ heterophylla
Cremanium tinctorium
„ quadrangulare
„ reclinatum
Spennera dichotoma
„ tetraptera
„ grandifolia
„ anomala
„ circæoides
„ fragilis
„ latifolia
„ viscida
„ hydrophilia
„ indecora
„ disophyllia
„ aquatica
Mussneria cordifolia
„ glabra
Cambessedesia roraimæ
Munteria lepidota
Marairea multinerva
„ pachyphylla

Marairea rigida
„ parviflora
„ thyrsiflora
Diplochita fothergilla
„ leucocephala
„ serrulata
„ parviflora
Maieta guianensis
„ dispar
Ossaca flavescens
Decarhaphe fockeana
„ hostmanni
„ floribunda

ORDER 282. MYRTACEÆ.

Eugenia sinemariensis
„ subobliqua
„ malaccensis—rose apple
„ quitarensis
„ ligustrina
„ acris—bay berry
„ nitida
„ linifolia
„ xylopifolia
„ nitida
„ pimenta—allspice
„ pyrifera
„ incanescens
„ schomburgkii
„ egensis
„ pomiferum
„ polystachya
„ latifolia
„ salzmanni
„ subalterna
„ lepthanta
„ paniculæflora
„ pyrifolia
„ inæquiloba
„ meni
„ michellii
„ undulata
„ parkeriana
„ fragrantissima
„ triflora—black wood
„ divaricata
„ vismæfolia
Jambosa vulgaris — narrow-leaved rose apple
Campomanesia glabia
Caryophyllus aromaticus—clove tree
Myrcia vel myrtus coriacea
„ hebepetala
„ guianensis
„ comete
„ carnea
„ coumeta
Myrcia vel myrtus tomentosa
„ acris—wild clove
„ splendens
„ pimentoides
„ bracteata
„ montana
„ communis — (varieties) myrtle
„ multiflora
„ prunifolia
„ schomburgkii
„ fallax
„ sylvatica
Punica granatum—pomegranate tree
„ nana—ditto
Psidium pomiferum—guava tree
„ parviflorum
„ pyriferum—French guava
„ grandiflorum
„ aromaticum
„ fluviatile
„ fragrans
„ turbiniflorum
„ ciliatum
„ polycarpum
Catinga moschata
„ aromatica
Calyptranthes rigida
„ obtusa

ORDER 283. LECYTHIDACEÆ.

Lecythis ollaria vel sapricaya
„ grandiflora
„ parviflora
„ tabucayo—monkey pot tree
„ longipes
„ amara
„ idatimon—zabucajo
Grias cauliflora—anchovi pear
Couroupita guianensis—cannon ball tree
Couratari guianensis — murri marri tree
Bertholletia excelsa—Brazil nut

ORDER 284. HOMALIACEÆ.

Homalium racoubea
„ napimoga
„ puberulum

ALLIANCE LII. CACTALES. — ORDER 286. CACTACEÆ.

Cactus hexagonus
„ repandus
Opuntia cochinellifera — cochineal shrub

Opuntia curassiaica—pin pillow
„ americana
„ tuna—pimploes
Melocactus communis — Pope's, or Turk's head
Phyllocactus phyllanthus
Cereus trigonus—prickly pear vine
„ grandiflorus—night-blooming cereus
„ triangularis — triangular cereus
„ monoclonos—American torch
„ hexagonus
„ russellianus
„ coccineus
„ formosus
„ tenuis
„ speciosus
„ peruvianus
„ euphorbioides
„ regalis
Rhipsalis cassytha
„ parasitica?
„ pachyptera
„ fasciculata
Pereskia aculeata—gooseberry bush

ALLIANCE LIII. GROSSALES.—ORDER 290. BARRINGTONIACEÆ.

Gustavia augusta—the gustavia
„ fastuosa
„ tetrapetala
Catinga moschata
Coupoui aquatica

ALLIANCE LIV. CINCHONALES.—ORDER 293. CINCHONACEÆ.

Coffea arabica—coffee tree
„ guianensis
„ occidentalis
„ paniculata
„ laxiflora
„ crassiloba
„ verticilata
„ benthamiana
„ tenuiflora
„ calycine
Palicourea tavitta—wild coffee
„ riparia
„ coccinea
„ guianensis
„ crocea
„ punicea
„ phœnostemon
„ umbellata
Psychotria parasitica
„ quadriradiata
„ nervosa—St. John's bush
Psychotria parviflora
„ cordifolia
„ fimbriata
„ asiatica
Guettarda vel isertia coccinea
„ ———
„ mathiola
„ xylosteoides
„ hypoleuca
Coussarea violacea
Siderodendron triflorum—iron wood
„ macrophyllum
„ laxiflorum
Coccocypselum tontanea
Diodia articulata
„ rudis
„ rigida
„ macrantha
Courtarea vel portlandia speciosa
„ grandiflora
Uncaria guianensis
Genipa americana
„ edulis
„ merianæ
„ caruto
Rondeletia capitata
Hedyotis herbacea
Oldenlandia corymbosa
Manettia coccinea
„ glomerulata
Schradera capitata
Calycophyllum stomleyanum
Sipanea tricantha
Verecta pratensis
Perama humilis
„ hirsuta
„ stricta
Nonatelia vel psychotria lutea
„ officinalis
„ racemosa
„ violacea
Macrophylla officinalis
„ racemosa
„ violacea
Malanea angustifolia
„ glaberescens
„ macrophylla
Randia mussænda
„ densifolia
„ armata
„ latifolia—indigo berry
„ ruiziana
Gardenia randia—dog wood
„ tomentosa
„ florida vel fragrans—Cape jasmine

Gardenia fortuni
Bertiera guianensis
Ladenbergia roraimæ
,, schomburgkii
,, tenuiflora
,, densiflora
Cephalis tomentosa
,, rosea
,, bracteocardia
,, violacea
,, crocea
,, alba
,, justiciæfolia
,, muscosa
,, dichotoma
,, evea
,, purpurea
,, rubra
,, glabra
,, hirta
,, aubletii
,, axillaris
Aspidanthera klotzschiana
,, rudgeoides
Ronabea latifolia
,, erecta
Faramea sessiliflora
,, corymbosa
,, crassifolia
,, bartlingiana
,, odoratissima
,, erythropoda
,, amplexicaulis
,, montevidensis
,, urophylla
Chomelia tenuiflora
,, angustifolia
,, pubescens
Commianthus schomburgkii
Cordiera acuminata
,, uniflora
,, latifolia
Sabicea velutina
,, glaberescens
,, aspera
Posoqueria longiflora
,, latifolia
,, trinitatis
,, revoluta
Tocoyena longiflora
Amaioua guianensis
,, corymbosa
,, fagifolia
Geophila uniformis
,, violacea
,, cordata
Ixora coccinea—scarlet ixora
,, fasciculata—dart wood
Chiococca racemosa—candle wood
,, caracasana
,, anguifuga
,, nitida
Retiniphyllum scabrum
Endolithodes racemosa
Psychotria mapouria
,, horizontalis
,, chlorantha
,, corniger
,, crassa
,, remota
,, setifera
,, inundata
,, acuata
,, nervosa
,, lupulina
,, capitellata
,, polycephala
,, schomburgkii
,, mapourioides
,, nerifolia
,, suffulta
,, hyptoides
,, bracteata
,, amplectens
,, spicata
Spermacocca latifolia
,, radicans
,, tenuior
,, verticillata
,, longifolia
,, divergens
Borreria spinosa
,, commutata
,, parviflora
,, verticillata
,, alata
,, suaveolens
,, perrottetii
,, tetraptera
,, elongata
,, gymnocephala
,, fockeana
,, kappleriana

ORDER 294. CAPRIFOLIACEÆ.

Lonicera flava—honeysuckle
Sambucus nigra—the elder tree

ALLIANCE LV. UMBELLALES.—ORDER 296. APIACEÆ.

Apium graveolens—celery

Petrosalinum sativum—parsley
Fæniculum vulgare—fennel
Anethum graveolens—dill
Daricus carota—carrot
Eryngium fœtidum—fitweed

Order 297. Araliaceæ.

Panax undulata—ginseng
„ morotoni
„ attenuatum
Hedera helix—ivy

Alliance LVI. Asarales.—
Order 302. Loranthaceæ.

Viscum trinervium
„ verticillatum
„ saururoides
„ perottetii
„ opuntioides
„ obtusissimum
„ dimidiatum
„ glandulosum
„ fockeanum
„ guianensis
Loranthus vel struthanthus patrisii
„ amplexicaulis
„ spicatus
„ affinis
„ marginatus
„ anceps
„ vestitus
„ surinamensis
Loranthus vel struthanthus syringæfolia
„ cuspidatus
„ pyrifolius
„ perrottetii
„ aduncus
„ sessilis
„ stelis
„ pauciflorus
„ terniflorus
„ flexistylis
„ squamulosus
„ guianensis
„ terniflorus
„ triceps
Psittacanthus guianensis
„ smithi
„ cupulifer

Order 303. Aristolochiaceæ.

Aristolochia anguicida — guaco, or snake poison
„ odorata—sweet-scented birthwort
„ trilobata
„ grandiflora
„ ringens
„ surinamensis
„ galeata
„ rumicifolia
„ braziliensis
„ peltata

THIRD GREAT DIVISION OF THE ANIMAL KINGDOM.

(*Animalia Articulata.*)

THIRD FAMILY.—(*Insecta*)—INSECTS.

BEFORE entering upon the subject of insects, in connexion with the natural history of British Guiana, I may remark, that it is not my intention to give a mere formal catalogue of names, neither to attempt a minute description of them, but to endeavour to convey to the reader some notice of the principal objects of this branch of natural history which are found in the colony, and to give, in as interesting a manner as the nature of the subject will admit of, an account of them in the order of classification usually adopted in scientific works on the subject. Insects form the third class or division of articulated animals, and are inconceivably numerous in this country. They may be seen, both day and night, flying about the gardens, houses, and, indeed, all over the colony, whether in its cultivated districts, in its unfrequented solitudes, in the crowded forests, and in the wide savannahs; on mountains, in valleys, on land and water. Some are met

with of enormous size, and alarm by their armed and ferocious aspect, as the phaneus lancifer, the stag beetle, and the elephant, or actæon beetle.

Others, again, are minute, and almost unseen, yet attract attention by their painful irritation of the skin, as the bête rouge, the chigoe, and sandfly.

They appear to revel and sport in the balmy atmosphere of the tropics, and rival, in their numbers and splendour, the luxuriant vegetation of the woods and forests.

The class of insects has been divided into twelve orders:

First Order.—Myriapoda; wingless, many legged insects.*

Second Order.—Thysanoura; wingless insects, with six legs.

Third Order.—Parasita; small parasitic, wingless insects.

Fourth Order.—Suctoria; insects with a sucking apparatus.

Fifth Order.—Coleoptera; winged insects, with six legs, as beetles.

Sixth Order.—Orthoptera.

Seventh Order.—Hemiptera.

Eighth Order.—Neuroptera.

Ninth Order.—Hymenoptera; including wasps and bees.

Tenth Order.—Lepidoptera; the butterfly insects.

Eleventh Order.—Rhipiptera.

Twelfth Order.—Diptera; including flies.

In the first order, Myriapoda, the centipedes (*Scolopendra*) are found; they are very numerous in this country, and are too well known to require description; there is scarcely a house which cannot furnish one or

* Other and more modern systems of classification have been proposed, and in many cases adopted by writers on entomology.

more specimens; the largest kind are seldom met with in the city, but chiefly among decayed woods, or under stones up the rivers. I have had a specimen in my possession which measured ten inches in length, and three-quarters of an inch in breadth; the creoles call them "forty legs," but they have forty-two legs and eight eyes. They feed on decomposed animal and vegetable matter, and are fond of hiding amongst coats, gowns, linen, boots, and shoes, where it is very inconvenient sometimes to meet with them. They avoid the light, or, perhaps, the dangers which light exposes them to; they attack other insects, and prey on cockroaches, and are, in turn, greedily devoured by poultry; they lay their eggs in clusters, like little berries on the ground, and the female chooses an obscure place for this purpose, as under flower-pots, where she can remain until the eggs are hatched. They are very tenacious of life, and if cut across the severed portions will twist and writhe about for some time.

The other Myriapoda are *Polydesmus Drurii*, *Polydesmus Schomburgkii*, *Julius Maximus*.

Of the second order of insects, the Thysanoura, or apterous insects with six feet, there are none worth dwelling on. These insects undergo no metamorphosis, and comprise the Lepisma and Podurus.

Those insects which belong to the third order, Parasita, are pretty well represented here as elsewhere. They are the plagues of animals and of mankind.. The hog has its Pediculus, man his, the dog its tick (*Ricinus*), whilst birds suffer extremely here from the parasites of the same family.

Of the fourth order, or Suctoria, apterous insects with a proboscis, or instrument adapted for suction, there is here, as in other places, the tormenting flea (*Pulex irritans*), which, like the mosquitoe, is well known to

feed on the blood of man and animals, creating ulcers in the uncleanly, and proving very destructive to poultry, pigeons, &c. But another species of the same family is equally annoying; this is, the little insect so well known as the "chigoe" (*Pulex penetrans**), called also jigger, chigre, nigua, pique, tungua. This little insect, so contemptible in its appearance but so formidable in its habits, penetrates the tender skin of the body, but chiefly of the toes, where the female, increasing to a considerable size, prepares to deposit her eggs, which are innumerable. A sensation of itching, at first pleasant, afterwards almost intolerable, directs the victim's attention to the progress of the intruder, who may generally be discovered by a black spot, or livid swelling, close to one of the toenails. This swelling is popularly considered as the "bag," or nidus, where the eggs are deposited, but in truth this is not the case. It is the female insect alone which burrows in the flesh; she enters head foremost, and her body gradually distending with the accumulation of eggs, presents that circular, nest-like form near to the surface of the skin so well known to the initiated. The male insect is very small, and never enters the flesh. It requires great care to extract the chigoe almost bursting with eggs, for if not extracted entire, some of the embryos remain in the wound and cause painful ulcers, which, if neglected, terminate in amputation or death. A Capuchin Friar, recorded by Walton in his history of St. Domingo, anxious to carry home some specimens of these insects to his friends, brought away with him from that island a complete colony of these creatures, which he foolishly permitted to inhabit one of his feet, but, unfortunately for himself and for science, the foot entrusted with the precious cargo mortified, was obliged to be

* It has been proposed that the chigoe should constitute a new genus, being peculiar in its structure and habits. (See Transactions of London Entomological Society.)

amputated, and, with all its inhabitants and his blighted hopes, committed to the waves.*

The chigoe delights in a warm, sandy soil, and exists in such places in vast numbers. I have seen them on the hands, body, face, and feet, and have known people unable to walk in consequence of the accumulation of them in the soles of the feet. It is not the ordinary habit of the female jigger always to wait for flesh to burrow in. A Dr. Rodschied, who, a long time ago, wrote a work upon the "Essequebo," stated that the jigger lays no eggs, but that the larvæ are developed in the abdomen of the mother, and are there even transformed to pupæ; but this has been contradicted by subsequent observations.†

Fifth Order.—*Coleoptera.*

It would be impossible for me in this place to give anything like an accurate account of the numerous Coleopterous insects which are met with here. The subject is inexhaustible; and to inquire into their structure, their habits, and many striking peculiarities, would require more than a life of perpetual study and application. I have for many years past endeavoured to make a collection of them, and have at this moment in my cabinet upwards of 500 species, having also, occasionally, sent similar collections to England. The study of entomology, insignificant as it may appear, is singularly interesting but difficult; to advance in it, the student must have leisure, patience, and perseverance; but in a country like this, which abounds in novelties, there is a vast field open for future entomologists. My only pretension in this work is to give a general description of some of the

* Kirby and Spence. Introduction to Entomology, vol. i. p. 102.
† Transactions of London Entomological Society, vol. ii. p. 201.

most common insects, and to note down what little knowledge I have been able to acquire respecting them.

I have been sometimes disappointed at the want of variety among the specimens in British Guiana, but, perhaps, this is rather to be attributed to my very imperfect investigation than to the real absence of such variety. I have no doubt that in the far interior, whether in the wooded forests, the grassy savannahs, or rocky mountains, numberless unknown species exist; but in the neighbourhood of the cultivated districts we see but a repetition of the same individuals, in such numbers as of itself to create astonishment. This is essentially a land of unsurpassed vigour in the production of most of the classes of animated nature. The air, the ground, the waters, absolutely teem with life, and the coleopterous insects of this country will vie in size and beauty with those of any other. Early in the morning, both in town and country, the busy duties of the day commence with many; and scarcely does the sun decline, than thousands issue forth, and crowd into the very drawing-rooms of the dwelling-houses. In the daytime the various weevils, some of very large size, commence their work of devastation on grain, fruit, and wood; the sun beetles, or varieties of the buprestis, outspread their gorgeous elytra, which reflect a thousand hues; the noble stag beetle, or sawyer, sallies forth to climb the branches of some inviting tree, or hides himself in the recesses of the chimney, but for what purpose I know not; the parti-coloured harlequin beetle is searching about, perhaps for a columbine; whilst the various "scarabæi" carry on their inglorious trade among the manure of animals. The gaudy-coloured coccinellæ and cassidariæ, like the "ladybirds" of Europe, go about shopping from plant to plant; while butterflies, and the cerambycidæ, are to be seen flying in all directions, both

on land and water; at night the scene is changed, and new actors make their appearance; the noble "lantern-bearer" holds his court, the sparkling fireflies shine like glowworms in the dark, whilst the glittering and dancing lampyrides (or what the greater number of people consider the real firefly) sport in the air, and mock vision with their sprightly pastimes; the sombre-hued "hard-back," and other similar beetles, also occasionally assemble in thousands, and bid defiance to every kind of persecution to which annoyed human nature subjects them.

Of the coleopterous insects usually met with, I will briefly mention what little I know respecting some of them. An elaborate description of most of them will be found in scientific works on the subject; and my object is rather to avoid scientific details, and only to dwell on a few of their habits and peculiarities.

The "buprestides" are among the largest of our coleoptera, and the most common species is known here as the "sun mama" beetle, so called, I suppose, from its resplendent elytra, which are collected by the curious, and worked up as necklaces and other articles of dress. These insects are often seen basking in the sun on branches of trees, and if disturbed, draw in their feet and antennæ and drop to the ground. They lay their eggs, which are of oval form and whitish in colour, under the barks of trees or among wood, and the larvæ, or caterpillars, are destructive wood-borers. The adult insects feed chiefly on leaves and flowers. The following species include those belonging, or allied to this family:

Buprestis gigantea
" collaris
" variolosa
" hirtomaculata
Conognatha clara
Colobogaster celsa
Chrysobothris 6 punctata
Phœnops subcuprea
Stenogaster atomarius

The true fireflies, or elateridæ, are of several kinds,

of which I have seen only five or six specimens. From their peculiar construction they are excellent leapers, bending their bodies in half, and with a loud, clicking noise spring up to a considerable height. They are seen on rather dark nights lurking among grass or shrubs, and are remarkable for the bright luminous spots which shine forth like the glowworms' light, and of such intensity as to enable a person to read by it. They feed upon flowers and tender leaves, and the larvæ, or grubs (wireworms), live upon wood and roots, proving occasionally very destructive to sugar-canes and other plants.

There is a great number of species found, among which are the following:

Elater ligneus
„ striatus
Pyrophorus pellucens
Monocrepidius lateralis
„ prolitarius
Dicrepidius porosus
„ chloropterus
Dicrepidius atricornis
Cardiorhinus hypocrita
„ troglodites
Artematopus tenuicornis
Scirtes pallens
„ adspersus
„ fasciatellus

The lampyridæ, or small fireflies, are the most common, and at night are sometimes seen in thousands dancing in the air, presenting a most beautiful sight. The light seems emitted by small spots under the abdomen and wings, and, unless in motion, they rarely shine. These small fireflies are about half an inch in length, and are of a yellow colour, spotted with black. They feed upon caterpillars, snails, but not, I believe, upon plants. I have never seen them during the day. They are the glowworms of this country, and have been used by some creole nations to ornament the dark ringlets of the women, for which purpose they are enclosed in folds of gauze, which are worn on the head. The effect when moving in obscure chambers must be striking; but I question whether they would outvie, or even rival, the luminous splendour of the wax taper, or sperm oil.

There are several varieties of this tribe:

Lampyris phosphorea
„ ignita
Photuris rubicunda
Charactus serratus
Charactus tricolor
Emplectus limbatus
„ desmocerus
Chalcas turgidus

FAMILY 6.—*Lamellicornes.* TRIBE 1.—*Scarabæides.*

The insects of this class are the largest which we possess, of which the first in size is the actæon beetle (*Scarabæus acteon*), which is from three to four inches long, and nearly as broad, with huge armed legs in proportion. These beetles are generally seen early in the morning, upon the branches of trees, or resting on the ground immediately under them. They walk tolerably fast, and fly heavily. They retire during the day to holes in decayed trees, or saunter about the gloomy pathways of the forest. These insects, along with others of this class, are sometimes collected by hanging a piece of stale flesh close to the ground, which seems to attract them. The scarabæidæ feed on dung, flesh, leaves, and wood. They lay their eggs in balls of manure or dirt, which they wheel away to some place of security, and the nest in time serves for food for the larvæ. In flying and walking they make a creaking noise, owing to the friction of the elytra against the sides.

The species known are as follows:

Agaocephala bicuspis
Scarabæus actæon
„ bilobus
„ codrus
„ chorinæus
„ alocus
„ enema
Scarabæus didymus
Tomarus zoilus
Geotrupes didymus
„ valgus
„ depressus
Phileurus pusio

Second Section of Coleoptera; Heteromera.

Some of the species of Megasoma are called by the negroes cockles. They make a buzzing noise during

flight, and are apt to strike violently against the faces of persons. They bore trees and other wood, and deposit their eggs in such places; they are handsome beetles, and may be known by their smooth brown wing cases.

The ordinary species met with are:

Melolontha geminata
„ uncinata
„ castanea
Cyclocephala brevis
uncinata
Cyclocephala castanea
„ stolata
Cetonia elongata
„ trigona

Allied to the above are the following:

Opatrinus geminatus
Blapstinus ruficornis
Epitragus fuscus
„ roscidus
Tenebrio gigas
„ retusus
Helops morio
Nilio vel Coccinella villosa
Stenochia compta
Allelula fortipis
„ spadicea
Lytta subvittata
„ anthracina
„ flagellaria
„ glandulosa

Belonging to the same tribe of insects (the Lamellicornes) we have several species of Macraspis and Rutela. The common "hardback" (*Macraspis morio*) is so called from its incredible strength. It is not an inch in length, and yet if a heavy book, or tumbler, or plate, is placed on its back, it walks away with it with the most perfect ease and "nonchalance." Two or three of them disposed properly will move a very heavy weight, such as a vase or lamp. They are considered in this country as indicators of weather, generally making their appearance before or along with rain. Upon such occasions they sometimes arrive in such numbers as to defy computation; thus at a ball given in 1845 by the then governor (the present Sir Henry Light) they flew into the ball-room and fell down on the floor in such numbers that they had literally to be twice swept away before the dancers could resume their performances. They are rarely or never seen during the day, and are supposed to

burrow and breed in the ground, for they are often seen spotted with dirt or mire.

They have been noticed to issue at times from dense foliage, and occasionally rolled up in leaves. They simulate death when taken, and if thrown away remain motionless until the supposed danger is over. They are greedily devoured by fowls, cats, &c.

The varieties known are:

Macraspis morio	Rutela laeta
„ chrysis	„ lineola
„ prasina	

There is a common insect here which is frequently to be met with in hundreds among dried megass. It is called the great borer (*Passalus interruptus*), and makes a plaintive creaking noise when taken. The larvæ appear to feed upon roots, especially the sweet potato. They are met with occasionally in great numbers in megass logies.

There are several species:

Passalus interruptus	Passalus convexus
„ striolatus	„ transversus
„ punctiger	„ furcilabris
„ interstitialis	„ morio

Allied to the above are the following insects:

Leucothyreus dispar	Phaneus lancifer
„ anachoreta	„ faunus
„ pallens	„ jasius
Ancylonycha sericata	„ festivus
„ leporina	Copris coenosa
Ateuchus triangularis	„ agenor
Canthon subcyaneus	„ quadrata

Tetramera; insects with tarsi quadriarticulated.

Of the weevil tribe (*Rhynchophora*) there are several interesting species, one or two of which only will be enumerated. The largest is a black beetle, about an

inch and a half long, which is chiefly found in the pith of the cabbage-trees which have been cut down. This insect (the *Calandra Palmarum*) feeds on plants and their juices; the larva is well known as the grougrou worm, which is used as an article of food by epicures and others. Many of our grain and fruit are subject to the depredations of varieties of the weevil tribe—for instance, the tamarind, rice, and corn.

Belonging to this family are the following insects:

Tylomus rubiginosus
Cholus annulatus
Cratosomus hoplites
„ cancellatus
Rynchœnus stigma
„ coccus
„ abdominalis
„ sanctus
Rhina barbirostris
Calandra hemiptera
Bruchus ramicornis
„ bactris
Spermophagus lupinus
Attelabris columbinus
„ carniolus
Attelabris femoralis
Brentus bifrons
Brenthus anchorago
„ bidentatus
Cyphus 16 punctatus
„ diadema
Platyomus clarus
„ chlorostrictus
„ ochroleucus
Naupactus rubiginosus
„ roscidus
„ faustus
„ optatus
Ileomus roreus

Of the tetramerous beetles with long antennæ (*Longicornes*), there are the stag-horn and harlequin beetles, both of which are common. The former (*Prionus cervicornis*) is armed with saw-like mandibles, with which it is known to be able to saw off branches of trees. Sometimes they are met with basking in the sun on trees, and I have myself found them in such situations; at other times they hide in dark holes, especially kitchen chimneys, where I have more than once met with them. The larvæ gnaw their way into wood (especially the gossampinus and silk-cotton trees), and are eaten as a relish by some of the native tribes. The adult insect feeds also on wood, and in sawing across branches of trees swings itself violently round, thus converting its serrated mandibles into a circular saw.

The harlequin beetle (*Acrocinus longimanus*) derives its name from its parti-coloured dress, which is red, black, and grey. It certainly does not deserve it for its agility, for it is a slow, heavy insect, which is to be seen lazily crawling upon the stems or branches of trees. The beautiful colours of the elytra fade after death, but are best retained by immersing the insect in spirits of wine. It makes a loud noise when disturbed or excited. It feeds upon wood, but I have never seen either its eggs or larvæ.

There are several species of *Cerambyx* and *Lamia* peculiar to British Guiana. I have seen them flying about at night, and also during the day, when I once encountered one flying across our broad river in the face of a strong wind; it seemed much distressed, and fell on a wharf, where I captured it. The *Cerambycidæ* are a beautiful and useful tribe of insects. They excavate old wood, deposit their eggs inside decaying trees, which the larvæ assist in removing. The larvæ of several species are also eaten by some people, who esteem it a delicacy. The "Cossus" of the ancients is supposed to have been the larvæ of *Cerambyx heros*.

The species of this tribe are numerous:

Ergates corticarius
Mallodon spinibarbis
Prionus cinnamomeus
„ scutellaris
Megaderus stigma
Lissonotus equestris
Cerambyx succinctus
„ barbicornis
„ suturalis
„ velutinus
„ hirtipes
„ ammiralis
„ festivus
„ ocellatus
Criodion castanopterum
Cosmisoma aeneicollis
Eriptrus collaris
Eburia perspicillaris
Sphœrion melanurum
„ procerum
Achryson circumflexum
Clytus cayennensis
Piozcera coriacea
Acanthoderes monacha
„ funesta
Lamia scorpio
„ horrida
„ depressa
„ globifera
Colobothea passerina
Hebestola operaria
Hippopsis dasycera
Saperda hirticollis

The tortoise beetles (*Cassidæ*) are pretty numerous

here. They live, feed, and breed on some of our aromatic shrubs and other plants. The larva, when about to become a chrysalis, attaches itself to the under part of a leaf, where in about three weeks it issues forth a perfect insect. They are in general small, and very prettily marked.

The species are:

Cassida palliata
„ variegata
„ brunnea
„ gibba
„ cyanea
„ inæqualis
„ discoides
„ lateralis
„ marginata
„ alutacea

Cassida confluens
„ judæa
„ zona
„ oculata
„ immaculata
Doryphora pustulata
„ punctatissima
„ annulata
„ trifasciata
„ sinuata

The Chrysomelina, and Coccinella (ladybirds), also abound among the small flowering plants. Wherever aphides are found, you may be sure to see several of the coccinella. They destroy the plant lice very extensively, and lay a cluster of small eggs close to a colony of the aphides or plant lice; when metamorphosed into grubs the future ladybird attacks their natural enemies, and devours large numbers of them, continuing their depredations in the adult state. I have frequently noticed them on the fireburn-bush (*Bannisteria fulgens*), and other plants, where they prosecute their useful labours.

The species known are numerous, among which are the following:

Colaspis occidentalis
„ flavipes
„ crenata
„ gentilis
„ lenta
„ virescens
„ glabrata
„ testacea
Noda exilis
„ humilis
Eumolpus nitidulus

Chlamys klugii
„ calestina
„ lamprosomoides
Pachybrachis hyacinthus
„ argentatus
Galeruca nigripennis
„ obsoleta
„ lacta
„ albicollis
„ abbreviata
Corynomalus 4 maculata

Stenotarsus brevicollis
Diabrotica angulicollis
„ elata
Homophocta clerica
Oxygona melanocera
Cacoscelis binotata
Erotylus olivierii
„ incertus
„ pardalis
„ unifasciatus
Erotylus 5 punctatus
„ notatus
„ undatus
Barytopus moniliferus
Brachysphenus regularis
„ vetula
Aegithus punctatissimus
„ surinamensis
Triplax gigantea
Coccinella 10 maculata

Sixth Order.—*Orthoptera.*

The insects so well known here as cockroaches, grasshoppers, locusts, &c., comprise the next order, Orthoptera. They are all terrestrial, and are omnivorous; some feed on flesh, others on living plants, and some, like the "Mantis," on other insects; but the most part of them are neither useful nor ornamental.

To begin with the cockroach (*Blatta Americana*), of which there are several species here (brown and grey), it is unnecessary to describe them. They are the pest of the tropics, and devour linen, cloth, paper, books, boxes, &c., sometimes even nibbling the toes of children and other persons. I have known troublesome sores to arise from such cause. They have a peculiar and disagreeable odour, which increases the general aversion towards them. They lay their eggs in clusters, in old boxes, the larvæ afterwards is enveloped in a brown case, and the young cockroach soon becomes as mischievous as his parents. They are attracted by powerful odours, and may thus be entrapped. Very few things escape their notice; they are the most inquisitive of all insects, and find their way into beer, milk, or tea, and, indeed, food of all kinds. Some species make a drumming noise at night, if they cannot in any other way annoy you; but in this country to hear the "Drummer" is rare. Fortunately fowls and other animals prey upon them, or we should be overrun with them. Between the cockroach

and the spider there is continual warfare, and the spring of the latter is generally fatal to the cockroach, whose brown semi-membranous wing cases are often seen suspended from the spider's web.

The varieties met with are *the Blatta colossea; B.* Australasiæ; B. Surinamensis; *B. phalerata; Blabera* postica; Peri planeta *brunnea; Pygidicrana bivittata.*

Those singular looking insects which are so well known here as the "walking leaves," "praying mantis," "dried sticks," are belonging to the tribe *Mantidæ*, which, once seen, require no further description to recognise them.

The most common is, perhaps, the *Mantis religiosa*, or walking leaf, which is frequently to be seen on the branches of trees and plants, from whose leaves it is almost impossible at a distance to distinguish them. They are often seen resting immovable on some slender leaf-stalk, with their fore legs raised, as in the attitude of prayer. This is regarded by many as the act of supplication, but, in truth, it is the reverse. The cunning creature is on the watch for its prey, and observing a small insect to pass, cautiously stretches out its paw, and seizes the unsuspecting victim, who all the time considered its captor a mere leaf. The wings, when present (for some species are apterous) and extended, present a most beautiful sight, and the wonderful resemblance to a leaf is still more perceptible, so that some excuse must be made for the insects who suffer from "mistaken identity." These insects, indeed, instead of praying, are very fond of fighting, and often destroy each other in single combat. They enclose their eggs in small gummy-looking bags, which they attach to leaves or other substances where the young mantis is hatched.

The "dried-leaf" insect is brown in colour; it is called *Mantis siccifolia*, its habits are much the same as the

other. Those without wings (*Phasma*) attain sometimes a considerable size, and look exactly like dried stalks. I once saw one here which was nearly twelve inches long, it was brought from Berbice.

The varieties of this family known are the Mantis Lobipes; M. precaria; M. rogatoria; M. Flavipennis; M. Sublobata; Thespis purpurascens; Phasma Necydaloides; P. Maculatum.

The next family of Orthopterous insects comprise those which are considered essentially as the leapers (*Saltatoria*), such as the gryllus, locust, &c.

The crickets (*Gryllus campestris*) are common here, but do not infest the houses so frequently as the house-cricket of Europe (*Gryllus domesticus*). These insects chiefly appear at night, and burrow in the daytime in holes in the ground, where they sometimes may be seen watching for smaller insects, on which they prey. The female lays an immense number of eggs.

One species known here as the Arianke (*Gryllo talpa*), is a frequent visitor of dwelling-houses during rainy weather, especially at nights, when they add to the insect nuisances of the tropics. They are surprising jumpers, and alight on the head or hands, but without doing any harm beyond the fright they occasion to sensitive persons. You can see they have been spending the day in mud holes, for their fore feet are often soiled with clay. They are in general about one inch in length, but I have a monster in my collection which measures about two inches. They are very formidable looking creatures, and irritate the skin with their rough legs.

The grasshoppers are very numerous; in appearance and habits they resemble the European species.

The locusts of this country are pretty-looking insects, with parti-coloured elytra and wings. They are never

seen in such numbers as to occasion alarm, being preyed upon largely by birds and animals.

There are several species here, the largest (*Gryllus vel acrydium crystatus*) being beautifully annulated, black and red, with bluish green wings and brown elytra; others, equally large, are all green; others entirely brown; some are golden green, with reddish tints; in all, I have in my collection—nearly a dozen different specimens.

The varieties met with here, belonging to the locust and grasshopper family, are as follows:

Phylloptera citrifolia
" salicifolia
" laurifolia
" myrtifolia
Conocephalus maxillosus
" hebes
Acanthodis aquilina
" consanguinea
Gryllotalpa oxydactyla
" hexadactyla
Opsomala dorsalis
Tropinotus serratus
" discoideus
Tropinotus obsoletus
Acrydium cristatum
" prætor
" miles
" flavofasciatum
" flavolineatum
" sanguinipes
Ommatolampes perspicillata
Oedipoda straminea
" caligata
" longipennis
Termes decumanus
" morio

Hemiptera.

The seventh order of insects (*Hemiptera*) is extensively represented in British Guiana, and affords some of the most interesting specimens of the insect world. They are provided with semi-membranous wing cases; the mouth is prolonged into a long proboscis or beak, not unlike an aculeus or sting. This instrument acts as a sucking apparatus; it pierces the textures of animals and plants by the stylets of which it is composed, and the juices extracted are conveyed into the stomach by the contractions of the muscular part of this alimentary tube. They inflict a tolerably sharp wound, not unlike that of the mosquitoe; but although wounded by them, I have never known any unpleasant result to follow.

Belonging to the first section (*Heteroptera*) of this order we find the cimices, including the numerous kinds of insects known as bugs, which feed on the fluids of animals and plants. The common insect, the bed bug (Cimex lectularius), is as familiar, unhappily, to the inhabitants of the tropics as to others; a true cosmopolite, it makes itself at home everywhere, and comes in with the mosquito for its share of nightly repasts. It is remarkable that the insects which appear to feed on vegetable juices should all possess the unpleasant odour peculiar to this family. Some of these cimices are extremely pretty, but if handled emit their disagreeable perfume.

I have met with about a dozen species of these bugs. The simitou, or bell-apple vine, is a favourite place of resort to a beautiful species (*Diactor foliacea*), with golden-green elytra and thorax. Its hind legs are very long and flattened out like oars, and beautifully coloured red and yellow; it is thus enabled to float on water.

Other species, some of large size (one inch and upwards in length), resort to the various plants. Some are great leapers, and both day and night find their way into apartments. Upon the numerous labiate plants which abound here several pretty species of the cimices are met with, and arrange their tiny eggs on the leaves. The eggs of the "Diactor foliacea," already named, are of a triangular shape, lustrous yellow colour, and the granular-looking contents are enclosed in a waxy shell. If a cherry or soursop tree be examined, it is rare not to find some specimens of the next section of this order, such especially as belong to the families "Cicadariæ" and "Aphides." I have repeatedly seen thousands of insects belonging, or closely allied to the genus "Ledra." They are about one-third of an inch in length, of a light brown colour, and with a singularly-looking helmet-

shaped and triangular head. They feed apparently on vegetable juices. That singular insect the "Membracis foliacea," is also met with in the gardens. The foliaceous and elevated prothorax always reminds me of the nautilus with its sail expanded. The colours, however, and size are very different. This insect is about half an inch long, its colours black and white. Specimens of the insects "Darmis," "Bocydium," "Centrotus" also abound; but it is time that we should consider the most curious and interesting of this order, viz., the insects so well known here as the "razor-grinders" (*Fidicina vel cicada Mannifera**). The peculiar loud chirping noise, so well known to most persons in this country, is generally heard in the morning at sunrise, and in the evening about sunset, hence they have been called by some "breakfast-bell," and "dinner-bell." The noise they produce is exactly like the grinding of some instrument, such as a razor on a stone. It is produced by a drum-like apparatus, which is situated at each side of the abdomen.

This apparatus is composed of a pair of concave membranes (which are easily recognised on the dead insect) placed on each side of the first rings of the belly, and are set in motion by a set of powerful muscles, admirably contrived for that purpose. Even after death a faint sound may be produced by working these muscles, or the joints to which they are attached; a wag might call it a dead sound. In the city it is very rare to see this insect, but it is heard very frequently in dry weather. The unseen insect perches on a tree and chirps away merrily for about half a minute, then suddenly stops, but begins again in a different locality; it has changed its place, but not its tune, and gives everybody

* A larger species is sometimes seen up the Essequebo, and utters a sharp note. It has been termed "Cicada tibicen."

an opportunity of hearing it. Whilst on a trip up the river Essequebo, I frequently heard them during the day, producing the most discordant sounds imaginable, and was fortunate enough to see many of them thus employed. The vibration of the wings was rapid and intense, evidently working the muscles which act upon the resonant drum. After some trouble and caution, I succeeded in bagging a few specimens; the instant that they were seized the sound ceased. I have seen three or four species of this "Cicada;" one about half an inch in length, another one inch, and the third about an inch and a half long. The colours of all were more or less alike, being all brown and green.

The females lay their eggs in roots or branches of trees close to the ground, and for this purpose are provided with a scaly ovipositor, an apparatus usually composed of three dentated blades enclosed in a groove with two valves, with which they penetrate the wood, and slide the eggs along to their place of security and rest. This admirable instrument is, however, seen on a much larger scale on some of the orthopterous insects already noticed.

List of Hemiptera found in British Guiana.*

Class.—*Heteroptera.* Family.—*Pentatomides.*

Augocoris gomesii
Coryssoraphis carneolus
Empicoris maculatus
„ cariosus
Cataulax marmoratus
„ apicaulis
Dryptocephala lurida
Ochlerus cerdo
Pentatoma ypsilon
„ pulchella
Taurocerus edessoides
Edessa vitulus
„ helix
„ cervus
Edessa moschus
„ alces
„ vacca
„ polita
„ quadridens
„ transversalis
„ corculum
„ cordigera
„ cruenta
„ discors
„ abdominalis
„ corallipes
„ cribrum

* Prof. Dr. W. F. Erichson, "Reisen in British Guiana."

Family Coreides.

Spartocera batatas
„ pustulata
„ pubera
Metapodius compressipes
„ suratus
Pachylis pharaonis
„ biclavata
Meropachys virescens
Nematopus gallus
„ dilatatus
Paryphes lætus
Crinocerus sanctus
„ cruciger
„ spinosus
Leptoscelis lunatus
„ hemorrhous
Chariesteres fasciatus
Copius histrio
Alydus melanocephalus
„ tarsatus
Hypselonotus striatulus

Family Lygæites.

Lygæus pulcher
„ zonatus
Pyrrhocoris ruficollis
Largus vel cimex lineola

Family Reduvini.

Pirates morio
„ myrmecinus
Spiniger albispinus
Pothea frontalis
Apiomerus hirtipes
„ lanipes
„ lunatus
„ vulneratus
„ crinipes
„ geniculatus
Arilus elevatus
„ rhombeus
Notocyrtus gibbus
Conorrhinus maculatus
„ lutulentus
Stenopoda cinerea

Family Ploteres.

Hydrobates linearis

Family Nepidæ.

Belostoma stollii

Class—Homoptera; Family—Fulgorellæ.

Pœocera porphyrea
Pterodictya ephemera
Labicerus elegans
Ricania reticulata
Pœciloptera phalænoides

Family Membracides.

Darnis trifasciata
Centrotus spinosus
„ vitulus
Membracis foliato-fasciato
„ compressa
„ ensata
„ decorata
Bocydium globulare

Family Cicadellæ.

Cercopis rubra
„ tristis
„ lineola
„ pubescens
Tettigonia phosphorea vel cicada phosphorea
Tettigonia rutilans vel cicada rutilans
Tettigonia obtusa vel cicada obtusa
Tettigonia aurulenta vel cicada aurulenta
Tettigonia bifasciata vel cicada bifasciata

Family Stridulantes.

Cicada eximia
„ grossa
„ grisea
„ vel fidicina plebeia, vel mannifera

Homoptera.

Many trees and plants in this country are infested with varieties of the family of "Aphides," so well known to agriculturists and others as plant lice. Any one who has a cherry-tree in the garden may be sure to find it largely inhabited by curious little creatures covered over with a white cotton-like substance; inside this web the insect

lives. They are astonishingly prolific, and no wonder, if the statement of Bonnet and others* be correct, that the influence of a first fecundation is extended to seven successive generations. These insects lay their eggs on branches and leaves, and live in large societies, sucking the juices with their trunk. I have frequently watched some of these insects establishing themselves inside certain leaves. The flattened animal dissects in the most scientific manner the epidermis of the leaf, and gradually insinuates itself between it and the parenchyma, where, at a first examination, you would scarcely notice anything unusual beyond a slight bulging in one part; by-and-by, however, the raised epidermis, cut off from its proper supply of nutrient vessels, perishes, and an altered colour betrays the habitat of the aphid.

It would be tedious to attempt to enumerate the numerous species which are found on the various trees and plants; some of the most common may be daily seen on the stems of the pink, the limonia, the plumbago, the rose and balsam plants, &c., and no one observing these plants but will remark the invariable presence of a small species of black ant, which in hundreds may be seen diligently attending the plant lice. Now, why is this the case? Everybody, perhaps, is not acquainted with the reason, and I will, therefore, give the necessary explanation. The ants and plant lice have a curious relationship; wherever aphides are found you may be sure to encounter ants, but they do not meet to quarrel or fight. The sagacious ants turn the aphides to an excellent account, and use them as we use milch cows! The ants, by means of their antennæ, collect from the plant lice the saccharine juice which these latter extract from the plants, and with which they are more or less saturated. Sometimes they are satisfied with merely licking

* Latreille and Cuvier.

off, as it were, the juices which lubricate these insects; in some instances they wait till the plant lice have accumulated a tolerable store, when they deliberately plunder them of it. The aphides do not appear to object; but, even if they did, the ants possess the art of forcing them to yield it at their pleasure, or, in other words, of milking them; nay, further, the ants make a sort of property of them, they watch over and guard a particular aphis, they settle on the same branches, and, if necessary, absolutely carry them off as captives, and enclose them in a sort of prison near to their nests, constructing this "lock-up" of earth and other suitable materials.* The loves of the ants and aphides are not, therefore, fabulous, and this singular "liaison" has been noticed from time immemorial.

Of the family (*Gallinsecta*) of the homoptera I shall say but little; the various species of "coccus" which infest numerous plants here are similar in their habits, and may daily be seen on some of the common shrubs, &c. They cover the tender bark with their oval or rounded bodies, in appearance like little scales or shields, and often enshroud themselves in the same cotton-like filament as the aphides. They deposit their eggs on leaves or stems, and encase them with the bodies of the females, which gradually desiccate, and form a kind of crust or shell over the ova, which are in time hatched by the warmth of the sun's rays. The gallinsecta injure trees and plants by the punctures they make, but some of them, as the cochineal, are useful on account of their "rich dyes."

I should have noticed before a remarkable genus of insects allied to the Cicadidæ, one species of which is the American Lantern-fly (*Fulgora lanternaria*), which

* Kirby and Spence.

is occasionally seen up the river Essequebo and other places, but of which I know very little, having never seen a live specimen. There is much uncertainty respecting the luminosity of this insect, Madame Merlian, in her account of the insects of Surinam, having positively affirmed the fact, which, however, has been denied by Dr. Hancock and other naturalists of this country. It is a strange looking insect, with a singular prolongation of the front,* where the luminous spots are reported to exist. Whilst on a visit at the "penal settlement" of this colony on the river Mazaruni, I heard of a very large species which had been seen a few nights previous to my arrival; it was distinctly stated, by some of the guards who saw it, to shine brightly at night. I sought for it in the locality where it had been seen, but it declined the honour of appearing in public, to my great disappointment, and although I requested that some pains would be taken to procure a specimen for me, I have never been able to obtain one alive.

Eighth Order.—*Neuroptera.*

Those common insects so well known as "pond-flies" here, and as dragon-flies elsewhere, belong to the "Neuroptera," or insects with finely reticulated wings, &c. They are numerous, flying about the country and hovering over the trenches and other marshy spots, where it is curious to watch them, perched on the tops of staves or branches, with their long narrow bodies sticking up in the air. They are of the most varied colours—red, green, black, and blue; others are almost colourless. It is a beautiful sight to witness the respirating motions of some of the larger species, which are of a rich scarlet colour. These insects are bred in the water; the female

* Cuvier.

sinks her eggs there, and if not appropriated by some fish or animal, these, in time, are converted into flattish larvæ, provided with feet, which they have occasion to use in searching for food. It takes a long time before they arrive at the stage of a perfect dragon-fly, at least two years, but their subsequent life is a short and apparently a happy one, save in the society of spiders, with whom they wage constant war. I have witnessed many combats between this insect and a large species of spider (*Mygale*), which generally terminated in the death of the ferocious-looking dragon-fly, who, with flashing eyes and formidable jaws, fiercely defended himself. It would be out of place here to enter upon a description of their magnificent compound eyes, which are made up of a multitude of lenses, and are truly beautiful objects for the microscope. They prey on small insects, and by some are considered to destroy mosquitoes, apparently chasing them over stagnant water.

I have numerous specimens of the dragon-fly in my collection, the largest from four to five inches in length, the smallest about half an inch long. The children here tie strings to their bodies and fly them like kites.

Besides the dragon-flies and other species of insects allied to them, there are varieties of small ephemeral creatures (*Ephemera*), whose existence and habits, beyond the fact of their being seen in countless millions about sunset along river *banks and grassy swamps*, are but little known.

The following varieties of the Neuroptera are found in British Guiana:

Libellula imbuta
" fastigiata
" vesiculosa
" attenuata
" cardinalis
" umbrata
" bicolor

Libellula discolor
" erratica
" unimaculata
" fervida
" famula
" guttata
Diastatops tincta

Diastatops fuliginea
" dimidiatæ
" fasciata
Ictinus latro
Gynacantha ferox
" nervosa
" trifida
Calopteryx caja
Lestes tricolor
Agrion linearis
" lucretia
" flavistigma
Ephemera albicans
Hemerobius validus
Corydalis nubila
Bittacus geniculatus
Macronema arcuata

Belonging to the order "Neuroptera," although differing so widely in appearance from many other insects of the same order, are those common insects so well known here as wood ants, woodlice, white ants (*Termes devastans*).

They have probably derived their name of ants from the societies and habitations in which they live, and are also divided into males, females, and neuters, or workers.

These destructive creatures infest houses and trees, and very often destroy the beams, rafters, and floorings of the former. There are generally several kinds of them, and in the nests some are very small, and white or grey, and the others as described below; they differ singularly in their general appearance at different times. Those which I have seen most frequently are about one-eighth of an inch in size, of a reddish yellow colour about the body and legs, but the head, which is large and pointed, is much darker, being brownish black. There are a series of transverse striæ in the abdomen. The antennæ are long and twelve-jointed.

Some build their nests in trees, and some on rafters and other portions of houses. They are constructed of thin dried earth and woody tissue, very light and friable. These nests are approached by long arched and narrow galleries or covered pathways, which are obviously intended to prevent the insects from being seen and destroyed by their natural enemies, such as birds, lizards, &c. They are surprisingly industrious and destructive; I have known them to construct in the course of one

night an arched highway, double in some places, along a brick pillar twelve feet high.

The guanos and other reptiles sometimes lay their eggs inside their nests; the negroes bring home the nests, and shake out the ants to feed poultry.

They sometimes swarm, and the winged males and females differing in appearance from those above described, literally cloud the air, and strew the ground with their bodies and readily detached wings; when such swarms arrive, it is generally considered by the inhabitants that heavy rains are approaching.

Some of the species of termites (*Termes cumulans*), which construct their habitations in the interior, make them of very large size; they often rise from eight to fifteen feet high from the ground in a spiral form, impenetrable to storm and rain.

NINTH ORDER.—*Hymenoptera.*

The insects which are included in the ninth order (Hymenoptera) have long been considered the most generally interesting to naturalists and others, owing to their wonderful skill, beauty, and usefulness. There is, perhaps, no country where so rich a collection could be found of the ants, bees, wasps, and their allies as this. They are met with in every garden, every house, nay, almost every room. Fine specimens of Bombi, Xylocopa, Euglossa, and others, pass buzzing from flower to flower; the smaller bees find out the sweets about the rooms, and hurry away laden to their hiding-places; thousands of maribuntas, wasps, and ants are for ever employed in the outbuildings and neighbouring bushes in providing for themselves and for their young, and the beautiful Fossores are incessantly occupied in constructing strange-looking habitations of mud for their future progeny.

I shall pass over in a very brief manner any account of the insects included in the first section of this large order, the "Terebrantia," or those insects characterised by the presence of an ovipositor in the females. I do this for the best reason in the world;—firstly, because I know little that is new respecting them; and secondly, because I have been unable hitherto to procure many specimens. The largest insects, and those most striking, are greedily collected by the persons who make a trade of this department of science; but the most common insects, and those of minute size, as is the case also with birds and fishes, are rarely sought for by collectors, so that unless a person has considerable leisure, and favourable opportunities, neither of which I possess, he has little chance of increasing his stock either of knowlege or specimens.

The Hymenopterous insects known as "Sawflies," on account of the saw-like motion of the ovipositor, are seen here making small holes in wood, where they deposit their eggs. As the young insect increases in size, there is a protuberance formed on the branch, like a nut-gall, and the insect, as a larva, escapes by biting its way out, and commences its depredations on plants. By-and-by, however, the larva spins a cocoon, and, after many months' obscurity, comes forth as a perfect sawfly. This can be noticed in the "Cimbices" and "Tenthredo" proper. The "Hylotoma lobata" also belongs to this family.

In the next family of this section (*Terebrantia pupivora*) we have several varieties, whose habits are much the same as those above described.

Thus that singular looking insect, a species of "Evania," belongs to this family. It has a small black body, with the abdomen attached to the posterior and upper

part of the body by a slender pedicle. The posterior legs and the antennæ are very long. It is occasionally seen flying about windows and other places.

Those curious carnivorous insects, Ichneumonidæ, are common, and of great variety. Known to many as the "Mouches vibrantes," on account of the rapid vibration of their antennæ, they are to be seen diligently in search of caterpillars and other insects, in whose living bodies the females unceremoniously deposit their eggs by means of the long ovipositors with which they are provided. Their instinct leads them frequently to find out the unseen objects of their search, which inside the holes of trees or wood consider themselves secure; but the formidable ichneumon fly, by inserting its long and slender tail, probes the suspected retreats of the caterpillars, and finding a suitable nest for its eggs, glides them rapidly along into the flesh of the insect which it is destined to destroy, for in a few days the eggs are hatched, and the young ichneumons begin leisurely to feed on the fluids of their victims, until they are transformed into the "chrysalis" state, where they remain until changed into the perfect insect, when they subsist on the juices of plants.

Several other species of this family might be enumerated, but I will content myself with an account only of some of the most striking.

The gallflies are those insects which, in appearance not unlike bees, puncture various plants, and deposit their eggs on leaves or stems, which, by the irritation they occasion, cause excrescences to rise, which, in the case of the common "gall nuts" of commerce, prove so useful in the manufacture of ink. Inside these nuts, which are found in many countries, the insect is hatched, and arrived at maturity, works its way out. One species may be met with on the wild fig-trees and others.

The following are the varieties of the Ichneumonides:

Polycyrtus lucidator; Ophion sphacelatus; Bracon Inquisitor; B. Deflagrator; Rogas Melanopterus.

Those pretty-looking insects so well known as "Golden Wasps" (*Chrysides*), belong to another tribe of this family. They may constantly be seen here, flying or walking about in sunny places, feeding on flowers. Their brilliant and beautiful colours defy description; one very common species, of a bluish-green, with metallic lustres, is a little larger than the common house-fly, and, like the latter, is seen about windows.

The females of this tribe deposit their eggs in the nests of other Hymenopterous insects, such as the mason-bee, &c., and their larvæ often devour the young of the others.

The second section of hymenopterous insects (the *Aculeata*) comprise those which have no ovipositor, but which are armed with retractile stings, except in the case of the ants, which are, however, furnished with an acid liquid, which answers much the same purpose. This section includes the four following interesting families:

1. The Heterogyna, or Ant family.
2. The Fossores, or Diggers' family.
3. The Diploptera, or Wasp family.
4. The Anthophila, or Bee family.

To begin with the "ants." There is scarcely a tree that is examined but some specimen of the ant may be found. They are the delight of naturalists, and the torment of housekeepers and labourers. It must be admitted that they interfere sadly with the pursuits of gardening, botany, and other agreeable occupations in the fields and forests; for it is barely possible to escape an assault from them when thus engaged. Thus, in traversing a wood, you may discover a beautiful orchideous plant, perched on some branch; but almost invariably alongside of it there is an ant's nest, which stands be-

tween you and your prize. I have never been able to ascertain the exact number of species met with in this colony; they are numerous, however, and I have already seen upwards of twenty different kinds, having about fifteen of the most interesting in my cabinet, but far greater variety obtains. One of the largest that I have seen is the cushi, or big-headed ant (*Formica vel atta Cephalotes*); it is nearly an inch in length, at least the winged insect is, and is of a reddish-brown colour. It is met with chiefly in the country, and resides habitually in the wooded interior, especially in sandy places; but now and then a species of emigration takes place, and thousands of them are to be seen marching in dense columns of extraordinary length. Save to an eye-witness, the discipline they maintain, and the destruction they occasion to their enemies whilst on their campaign, is almost incredible. The insects placed side by side—the numbers on one line varying according to circumstances—follow in long undulating files the path chosen by the commander-in-chief, some veteran and huge cushi, who is assisted, apparently, by aides-de-camp; for numerous ants, conspicuous from their size and bearing, are observed marching at the sides of the columns, apparently for the purpose of keeping the *corps d'armée* well together. Thus drilled and formed, they traverse miles of ground, turning neither to the right hand nor to the left, but wending their way towards the several objects of their pursuit. They enter houses, the inhabitants of which are glad enough to decamp, knowing, however, that the demonstrations of the cushi army are, on the whole, friendly, inasmuch as they clear the rooms of various household nuisances, such as cockroaches, beetles, spiders, &c. But it must be admitted that they also strip useful trees of leaves and buds—such as the vine, and occasion other spoliation in their remorseless march, so as often

to deprive the native settler or traveller of his stock of cassada, grain, or other edible products. In one instance to my knowledge, they appeared only at night, and ravaged a beautiful vine; in the morning the leaves were nearly all stripped off, but not a cushi ant was to be seen; the next night they again carried on the work of destruction, and so on for several nights, until the spoliation was complete. In like manner, they attack larger trees, and carry home to their dwelling-places the products of their plunder. These dwelling-places are conical hillocks constructed of earth, or woody tissue, and are commonly seen in the forests.

There is a species of hairy ant about three-quarters of an inch in length, of a black colour, with yellow stripes in the thorax and abdomen, which is solitary in its habits, and may often be seen in sandy places. This insect (*Mutilla diadema*) I have never seen with wings. They are very cautious and shy in their habits, and sting severely. They build in the ground, for when chased they disappear rapidly in subterranean passages, and I have never met with them in nests elevated above the soil. The male insects are said to alight on flowers, being winged; but they are not so commonly noticed as those without wings. Other species are known, viz.:—*Mutilla larvata, Mutilla perspicillaris, Mutilla parallela.*

I have in my cabinet two specimens of ants which are by far the largest of any others in this colony. They belong to very different tribes. The largest, including the wings, is upwards of an inch in length, its colour reddish-brown, and the wings yellowish and very powerful. The head is small in comparison, and of a triangular shape, the two upper mandibles crossing one another; the antennæ small and geniculate; the thorax and abdomen are very large, globular, and of equal size, the

latter connected to the first by a slender pedicle. It is called by the lower classes "cushi mamma ant," and is supposed to breed the real cushi. It is often seen with them, and may have some connexion with the others. The other specimen is about an inch long, and has an enormous oval-shaped head, placed vertically, the mandibles forming about one-third of the head, being serrated. The antennæ are very long and geniculate; the legs are also long, especially the hinder pair; the abdomen constricted in its middle, is connected by an irregular, or anvil-shaped, pedicle to the thorax, which is gibbous. I am, unfortunately, unacquained with the habits of both of these insects, which appear to me not to be generally known.

The famous Monouri Ant, which is used by the Indians as one of the ingredients in preparing the deadly wourali poison, is about three-quarters of an inch long, and of an entire glossy black colour, with a triangular shaped head, arcuated and crossed mandibles, two-lobed thorax, and oblong, many-lobed abdomen. It is solitary in its habits, bites or stings so severely as often to occasion fever, and is used by the natives to test the hardihood and prowess of aspiring youths. It is met with on the ground in woods, and about the roots of trees and dry leaves. The following species of ant are also found here:—Ponera clavata; P. crassinoda; P. apicalis; Formica atrata.

Another species is closely allied to the monouri, but is not so much dreaded; indeed, the Indians have a habit of rousing their indolent children by subjecting them to the stings of these ants, which are called Youcou (*Myrmecoda*). It is about the same size and appearance as the monouri, very black and glossy, but the thorax is divided by sutures into three segments. The antennæ in both are large and geniculate, being also

curled at the tips. Their haunts and habits are much the same as the others which they so much resemble.

Another species of black ant (*Cryptocerus*), but which is very different in shape to the two others above-mentioned, is gregarious in its habits. The head is flattened, square, and emarginated; the antennæ small, and fitting into grooves at the side of the head, at the posterior angles of which are two spines; the thorax is very irregularly shaped, and spinous; the abdomen almost globular, and joined to the thorax by two knots. They are of very different sizes, being generally about half an inch long. They are armed with stings, but are generally harmless. I have observed a colony of these ants in the same place for the last six years. This chosen locality is a row of palings close to a house in the country, and although the staves have been painted, and latterly coated with tar, these insects have never abandoned the spot. In dry weather they are to be seen in great numbers running along the ledge which traverses the palings, and have apparently made an excavation or nest in one of the larger corner posts, where a wide orifice leads to their abode. I have repeatedly pushed in small pieces of wood to disturb them, but they very soon removed the offending intruder, and bit at it sharply with their mandibles. They climb the neighbouring trees, and perform expeditions on the ground, but in wet weather very few of them show themselves out of doors. Another allied species is *Cryptocerus pusillus*, whose habits and appearance are similar to the other.

There is a large species of ant called by the negroes "Yager, or hunter ants." I once stumbled upon a host of them, which had taken up their abode in an old box which had long been undisturbed. The commotion in consequence of the opening of the lid and moving of the box was indescribable. They swarmed in all directions,

and endeavoured to escape; most of them had large wings folded horizontally. Some of these ants were nearly an inch long, but in general they were only about half an inch.

The head is black, and of an irregular triangular shape, flat beneath and round above; antennæ long, geniculate, and tapering towards the tips; thorax black; abdomen oblong, and connected to the thorax by a short, irregular pedicle; under surface of body and legs brownish yellow.

There were a great number of young ones in the larva state, in different stages of growth, and wrapped up in mummy-like bags of a yellow colour and oval shape. It was singular to witness the laborious efforts made by the ants to effect the escape of these precious babies and their swaddling clothes. They seized the bags firmly with their mandibles, which are short but strong, and, scarcely able to totter with their load, yet persevered steadily in attempting to escape, and only parted with the unconscious objects of their care with their lives, for some fowls, equally interested in the discovery with myself, soon made their appearance and devoured a great number, irrespective of age and sex. These ants prey greedily on cockroaches, maribuntas, flies, &c.

I am acquainted with about four or five varieties of the red ants found here.

The smallest is the palest, and is very harmless, although very troublesome in attacking sugar and other sweets. It is difficult to keep them out of the cupboards and other places where such stores are preserved; a lump of white sugar will attract hundreds of them, and their tiny bodies are quickly supplied by very minute rations; but, nevertheless, their company is always gladly dispensed with.

The common red ant (*Formica caustica*) is common

about flowers and trees, and if handled its caustic acid sting is very painful, and often raises a blister, even when touched after death. It wages war with the small black ant, and I have often watched columns of the latter, loaded with spoil, retreating slowly and in good order before the advancing impetuosity of the assailing red ant. On one occasion the two armies defiled slowly across my study, and although the black ants were pursued and attacked, they presented such a bold rear-guard as to prevent any great numbers of the red ants from breaking through their lines, which were occupied in carrying away in their mouths some precious burden. In this manner they slowly retired behind a brick column, where I lost sight of the belligerents.

Another species of red ant is similar to the last in most respects, but differs in being of a darker colour and of smaller size in general. They build their nests in holes in the ground, which are easily detected by the peculiar pulverised appearance of the earth immediately around the entrance, which has a sort of slight embankment thrown round it. On examining one of these subterranean passages I was surprised to find several ants larger than the others, and with such huge heads and ferocious mandibles as at once to attract my attention. They were three or four times larger than the others, and if touched with a small stick seized it firmly with their jaws; but if not actually touched, turning about in all directions, with mandibles gaping, ready to seize upon anything. These larger insects are, I believe, generally regarded as neuters, or soldiers and nurses.

A larger species of red ant builds a habitation of finely pulverised earth, which is thrown up as a mound at the roots of trees, against their stems, or among low brushwood in the forests and uncultivated spots. A stick thrust in will cause hundreds to rush out, and their bite

or sting is so severe as often to occasion fever. These and similar species of ant are often made useful to the naturalist by the expedition and certainty with which they dissect dead bodies of animals and birds, leaving nothing in a few weeks, after the corpse has been thrown into their nest, but the bare and polished skeletons. Many of the ants, however, feed on fruit, insects, or their larvæ—in fact, very few things come amiss to them. The ants of this species are larger than the foregoing; the colour is red, but the abdomen is much darker. There are several sizes of them in the same nest, and I have observed the same kind of large-headed ants with powerful mandibles as in the former family.

Another species of red ant (*Formica rufa*) is common in many parts of the interior, building habitations of a conical shape, like hillocks; sometimes these hillocks are met with from 6 feet upwards in height, and more than twice that size at the base. Some travellers* have asserted having met with them 100 feet in circumference at their base, and others† have declared them to be of such enormous size, that they feared to approach them lest they should be devoured. These "ant-hills" are constructed of earth and woody tissue, and although rude and coarse externally, are arranged inside with much skill and foresight against both heat and rain. The apartments are numerous, and suitable for the reception of the several inmates—males, females, neuters, and young ones; the latter are particularly looked after by the neuters, who carry the necessary food for them in their mouths, transport them in fine weather to the sunny side of the hill, carefully protecting them in wet weather, and otherwise defending them against their enemies celestial, terrestrial, or aquatic. The eggs of the females pass

* Stedman's Surinam. Dariom. † Malouet.

through the larva and pupa stages before they arrive at puberty or "anthood."

Another species of red ant (*Formica sanguinea*), blood-red about the head and thorax, but with a grey-black abdomen, is also met with in the woods, and is one of those species which have been termed "Amazons," or "Legionnaires," by M. Huber, and which, like the driver ants of Africa described by different writers, are in the habit of attacking a species of black ant (*Formica cunicularia*) and invading their premises, actually kidnapping the young ones, and carry them as slaves to their own habitations, where they compel them to work and assist in the rearing of their young. This novel system of the slave-trade is elaborately and elegantly described by various authors.*

There remains now but a few more species of ants which merit attention. The small common black ant (*Formica bispinosa*) is too well known to require any description of it. Their numbers are incredible, for there is scarcely a house, tree, or plant but contains its hundreds and thousands. These are the ants which so particularly attach themselves to the aphides or wood lice, and extract from them their saccharine nutriment. They are never known to sting, and are uniform in size. They live inside crevices of trees and other wood, where they appear to have excavated passages or apartments which they more or less cover over, or protect with a light powdery substance.

I have observed that this species of ant also builds a small nest of a membranous texture, which it suspends to the branches of trees. When first I saw these minute nests I took them for the habitations of some small species of maribunta. On examination, I found, to my

* See Transactions of Entomological Society, 1847.

surprise, that they were inhabited by small black ants. The size of the nest is about one inch square, and is shaped like a keg. On breaking into it I found it constructed of numerous tiers or layers flat in the centre, but divided at the sides into a number of narrow cells or divisions, separated one from the other by membranous bands; in some of which were found small white eggs and oblong larvæ enclosed in cases, and also numerous winged ants, similar in structure to the others, but many had white antennæ, and seemed very feeble, hiding themselves in the cells; I also noticed that some of the ants were much larger than the others. When disturbed, it was curious to observe the common ants seizing the larvæ and eggs, and hurrying away with them to place them in security in another tier, and returning for more eggs and larvæ. The next had a waxy feel and smell.

We now arrive at the consideration of the second family of the hymenopterous insects—the "fossores," or solitary insects which build mud nests.

Some of these are magnificent in their appearance, and of habits singularly interesting to the naturalist. There are numerous species, about twenty of which I am more or less acquainted with. They are armed with stings, are furnished with wings, and live on the ground. One of the largest insects of this family which I have seen is that which is known here as the King of the Maribuntas. It is about an inch and a half long, the body and head greenish blue, and like, in appearance and lustre, to the polished blade of a steel sword; the wings are bronze colour and lustrous; the antennæ are reddish, except the first joint, which is black. These beautiful insects live chiefly on the ground, their long legs being well adapted for walking. They are fond of sandy and sunny spots, and often fly about flowers. They sting severely. The female lays her eggs in the ground.

These insects are often observed busily engaged in excavating holes in the ground, and are very active.

I have seen five or six different other species similar in colours and general appearance to the one above described, but smaller in size, some being only one inch in length, others only half an inch, and even less. They have all long legs and long antennæ, and are of the same brilliant steel blue colour. Their habits are also similar to the larger species (*Pepsis*), and I have often watched them walking rapidly along sandy spots, or among grass, their antennæ and wings busily at work and rapidly vibrating.

The following are the varieties known:—Pepsis elevata; P. janthina vel ruficornis; P. strenua; P. equestris; P. Thalassina; P. Plutus; P. amethystina; P. vel ammophila abbreviata.

Perhaps the largest insect of the family of "fossores" is a species of "scolia," which at the first glance looks like a large bee. One specimen in my possession is about two inches long, of a lustrous steel blue colour, with bronze wings; the legs, thorax, and abdomen are hairy. It is often seen flitting about flowers, and at other times basking in sunny, sandy spots, where it burrows in the ground.

There are two or more varieties here, namely: Scolia variegata; S. hœmatogastra. Another species of fossor looks like a large wasp. It is allied to the tribe "benbex," and is probably a "monedula." It is somewhat less than one inch long; the head, thorax, body, and legs being black with yellow stripes. These insects are seen in the vicinity of flowers, and burrow in sandy places, where the females deposit their eggs and capture small insects, such as flies, for the use of their young, which, with their prey, they leave in closed-up holes in the ground.

A pretty species of fossor is often seen on the ground

in pathways along the side dams of estates. It is either a planiceps or ammophilus. It is barely one inch long; the head is flat, and has a golden crown, in the centre of which are placed the antennæ (black, and curled). The thorax is black, with golden stripes; the abdomen, oval shaped, is connected to the thorax by a slender pedicle, and is partly brown and black; the legs are brownish; their habits are the same as the monedula. The following sphegides are found:—Sphex latro, S. caliginosa, S. ichneumonea, Sp. fervens, Podium giganteum. Several other species belonging to Latreille's family "Sphegides," are also met with, black about the head and body, but with reddish brown abdomen, but in appearance and habits they so much resemble the others as to render further description unnecessary.

Before leaving the Fossor family I have to notice a very interesting tribe of them, so well known as "Dirt Daubers," from the fact of their building their nests of mud inside houses. There are several species:—Pelopæus lunatus; P. flavipes; P. histrio; P. vindex, &c.

Everybody here must have noticed patches of mud, irregular in shape and size, stuck about the walls and ceilings; these are the habitations of the young "dirt daubers." The different species build different kinds of nests. Some are arranged in oblong cells, four or five in number, placed horizontally, and with openings at one end; inside these the female "dirt dauber" lays her eggs, and having placed there a sufficient supply of young spiders, caterpillars, and flies, closes up the orifice of each cell, and leaves the inmates to their fate.

The egg in time becomes hatched, and in the larva state the insect finds a supply of food for its sustenance placed there by the instinct of its parents. The spiders and caterpillars being devoured, and the larva being in time metamorphosed into a complete "dirt dauber,"

breaks down a portion of its muddy cell and goes forth to the world on its own account.

Some build thimble-shaped nests; others long, narrow cells, striated on the outside; others attach a pedicle of mud to the ceiling, and suspend from it a number of cells enclosed in a homogeneous mass of earth. Those small globular mud-nests so often seen here stuck in rows like marbles on walls and posts, are, I believe, constructed by another species allied to this tribe, and require to be noticed. In colour and size they resemble the common maribunta, being of a yellowish brown, and about one inch long; the mandibles are prolonged and triangular in shape, and the pedicle, which connects the thorax to the abdomen, is very long and tapering. These insects are called "Masons" here, and when their marble-shaped nests are finished, deposit an egg inside along with young spiders or caterpillars, to serve for food for its young, which are gradually developed in the mud-nest.

The third family of the aculeated hymenopterous insects are those whose upper wings, with few exceptions, fold longitudinally, as is well exemplified in the different species of maribuntas which are here so common. They belong to the wasp tribe (*Vespariæ*), and from their habits and skill in architecture are very interesting to naturalists. They sting severely, and the wounded part inflames, and in delicate habits is apt to bring on fever. I have known more than one instance where partial blindness has resulted from the eye being stung.

The most common species (*Polistes*) is about one inch long, of a chestnut brown colour; but the wings and head are lighter coloured, being of a yellow brown. They diffuse an agreeable perfume, something like honey-water. They build about outhouses and other unfrequented buildings, and often in houses, especially the

galleries, where they construct a sort of pasteboard nest. They commence operations by preparing a glutinous mass in their mouths, and having stuck a lump of this on the ceiling or rafter, attach a slender but substantial pedicle, varying in length, but generally about half an inch long, and gradually weave from this a number of long hexagonal cells, which are allowed to remain open at the most depending part. It is curious to watch them preparing these cells; supporting themselves by their delicate legs, and with their bodies hanging downwards they spin out the viscous mass from their mouths, and work it from side to side, adding generally to the borders of the pasteboard membrane until the cell is completed. When first laid on, the material is of a dark grey colour, but as it dries it becomes lighter in colour; by this difference in colour the observer can distinguish the old from the recent work. Preserving their equilibrium by bringing the tail towards the head and forming a kind of semicircle, they agitate the antennæ, and with these organs strike the mass as it is formed, apparently to test its strength, and possibly to give it the required shape. The work is carried on in a very rapid manner; in the course of a few minutes a cell is constructed; the insect sometimes flying away for a short time as if to procure fresh materials, and when one cell is ready the female (who in general is the architect) attaches a minute oblong egg of a glistening white colour by means of a slender pedicle to the upper part, generally towards the side, and goes on with another cell until the requisite number are completed. These cells remain open for some time, but by-and-by, when the larva is about to emerge from it, the parent supplies it with the necessary food, and closes up the open end by means of a cotton-looking tissue quite different from the rest of the cell. The head of the larva is always towards this end, and in time, when the meta-

morphosis is complete, it easily escapes by biting its way through the barriers of its prison.

Some other species of maribunta build very large nests on branches of trees, of different sizes and shapes; some are flat, others jug-shaped, some pear-shaped, and a few round; but in these instances the hexagonal cells are arranged in several tiers placed one over the other, but not touching, and are enclosed in a thick pasteboard-like envelope, beautifully smooth outside, and approached at one end by a circular orifice. The smallest nests which I have seen were little larger than a dollar, and the largest of this kind were of the size of a soup-plate, or shaped and sized like tea-urns. Some are almost globular, and rest on a flattened base not unlike to a cup and saucer. Some nests are so white and smooth as to receive pen or pencil marks, and present an appearance as if they had been frosted over. One of the largest nests which I ever met with is built by a large black maribunta (*Polistes morio*), whose sting is very painful. The shape of the nest is like a truncated cone; it often measures 18 inches in length, and generally rests against some branch. It is rough, convex, and striated externally, and inside there are numerous tiers of combs or cells. The only way to get these nests without being dangerously assailed by the inmates is to smoke them to death by means of a torch of pitch or turpentine; sometimes the negroes fire into the nests to get rid of these venomous insects. The adult insect is about one inch in length; the colour bluish black, with metallic lustre.

Another species of maribunta is very like the last in size and general appearance, but is of a lighter or steel blue colour, and brown wings; it is in the habit of running about on the ground as if in chase of insects, hence the negroes call them "Jagman" or hunters, and affirm that they build mud-nests in the ground, but I

have never seen such a nest, and should suspect, from the character of the insect, that its habits must approach that of the "Polistes morio" above described.

A very pretty urn-shaped nest is constructed by a species of maribunta about eight lines in length; the people here call it the "Frenchman," but why I do not know. The head, wings, and posterior rings of the abdomen are brownish black; the rest of the insect is of a yellow brown. It builds its nests on branches of trees, and the combs or cells often contain a sort of saccharine fluid like honey, which, indeed, is the case with many of the other species.

A small species of maribunta (*Polistes nidulans*), about a quarter of an inch long, and of a glossy black colour, with golden streaks on the thorax and abdomen, may be constantly observed flying about houses and gardens, and builds its beautiful pear-shaped nests on the branches of trees or shrubs; it is very harmless, and does not appear to sting.

A similar species to the P. nidulans, but larger, and of an entire black colour, builds long conical nests, which are suspended from branches, and are of a silvery white colour. The cells are likewise arranged in tiers, being concave above and convex below.

The following varieties of the wasp family are found:—Odynerus nigricornis, Brachygastra aurulenta, Polistes cærulea, P. nigripennis, P. infundibuliformis, P. rejecta, P. pygmæa, P. rufina, P. Cayennensis, P. fasciata, P. labiata, P. infuscata, P. urceolata, P. versicolor, P. analis vel variegata.

The bees and their allies constitute the fourth and last family of aculeated hymenopterous insects, and are easily recognised by the large size and hairy appearance of the posterior pair of legs, the first joint of the taisi being remarkably large, dilated, compressed, and often hairy,

for the purpose of enabling the insect to procure and collect the sweet juices of flowers on the pollen of which they generally feed. I have in my collection upwards of twenty different species of this large family, but am aware that a larger number than this obtains in this country, which is a true Paradise for insects of this order. They vary in size from the common bee to others which are about an inch and a half in length.

One of the largest species met with is upwards of an inch long (*Xylocopa violacea*), of an entire glossy black colour, the eyes being yellow, and the wings bronze; the legs are large and hairy. The female is much larger than the male. They are very destructive to wood, the female boring large circular holes which penetrate to some depth, and are divided into several cells by partitions artificially constructed for that purpose of woody tissue and some viscous fluid. In each of these cells she deposits an egg, and leaves a kind of paste as food. They are called carpenter bees, and by the French *Abeilles percebois* and *Menuisieres*. They are constantly seen flying about flowers of the fidèle wood,* locust, and other trees.

Several varieties are found here:—Xylocopa cajennæ, X. fimbriata, X. æneipennis, X. barbata; Trachina vel centris denudans, Tr. longimana, Tr. lineolata.

Another large species, somewhat similar in size and general appearance to the carpenter bee, but is of an entire yellow or yellow brown colour, and has the appendages of the mouth more prolonged, is allied to the "humble bees" (*Bombus*), and makes a nest in walls or about the roots of trees, where there is a society of them.

Another species of Bombus, about one inch long, is black, except the eyes and thorax, which are yellow; the legs and body are very hairy.

* The term fiddle-wood is a corruption of fidèle-wood tree.

A third species is the "Bombus Braziliensis," about three-quarters of an inch long and blackish in colour, with three patches of yellow, two on the thorax and one on the abdomen. Stictia vel Bembex signata, B. maculata, also belong to this family, as well as the following beautiful insects:—Hemisia clitelligera, H. varia; Centris dimidiata, C. infernalis, C. cilipes; Epicharis dasypus; Exacreta lucida, E. aurata; Melipona conpressipes, M. lateralis, M. pallens, M. pallida; Euglossa Surinamensis, E. cordata.

A gentleman once sent me a singular-looking nest, or collection of cells cemented together, which he had found among his orchideous plants; on breaking open one of these cells, I found a large whitish larva inside, and determined to keep the others for future inspection. I put them by, and about three weeks afterwards I broke open another cell, when a full-formed species of black bee issued from its recess and began to buzz about, vibrating its wings in the most rapid manner as if in delight. This species was about an inch in length, of an entirely black colour, and appeared closely allied to the Euglossa Surinamensis. The nest consisted of twelve cells of a thimble shape and size placed most irregularly together, and composed apparently of some sort of earth in appearance like pasteboard. The colour of the cells was dark brown outside, but of a light yellowish brown inside, and quite smooth.

There are several species of honey bee which are met with in the woods, in gardens, on plantations, and also in the houses of the inhabitants.

The most common species is about a quarter of an inch long, and is black, with a russet hairy ring round the upper part of the thorax, and with yellow borders to the posterior rings of the abdomen; some are of larger size than the one described. They construct their nests in

hollow trees, and form an irregular homogeneous sort of habitation of thin and very light material, not regularly arranged in cells or combs, but with various sized holes, where they deposit the honey. I have seen them occupy the inside of a living cabbage-tree, which they entered by small circular orifices. They may be handled with impunity, having no sting, and if squeezed leave a pleasant honey-like smell on the fingers. They frequent the neighbourhood of flowers and the sugar-boiling houses, where they may be seen in thousands in sugar and molasses casks. These bees have no queen that I have been able to discover, but they occasionally swarm and emigrate. The inhabitants often place wooden boxes, perforated with small holes, outside their windows, or in the galleries, and the bees find these convenient places of resort, but in the end are robbed of their honey for their pains.

I am acquainted with three varieties of this kind of honey-bee, and these all build in the wild state the same kind of nests, which consists of two portions, one intended for the storing of the honey, made up, as above described, of thimble-like recesses, and the other composed of tiers of cells like the maribunta nests, where the bees lay their eggs and hatch their young. These bees are attacked by many other insects, but especially by a small species of vespa, which may be seen endeavouring to steal into the haunts of the industrious bees, but are gallantly repulsed.

Tenth Order.—*Lepidoptera.*

The tenth order of insects comprises the interesting family of butterflies (*Lepidoptera*), of which we have a considerable variety in this colony. Great numbers are collected annually, and are carried away by strangers and others quitting these shores; but until Professor Erich-

son's classification of them appeared,* I had never been fortunate enough to procure a list of the numerous species found here, and my own collection was too limited to enable me to do more than form a limited acquaintance with some of the most common. Butterflies are indigenous to all parts of the colony, and are met with all the year round. I have seen them crossing the Demerara river where it was fully a mile in width during a high wind, against which they flew. They are generally seen in greatest numbers in the dry months, but numerous species fly about in wet weather; they are seen in both town and country, but it is chiefly in wooded places that great numbers abound. I have repeatedly noticed butterflies flying about after dark, and some species frequently find their way into the sitting-rooms of the inhabitants where a bright light is burning; and as for moths, with whom this habit is natural, it is incredible, except to a resident, to believe in the numbers which infest the apartments after sunset. They flutter about the eyes and ears, rest on the head and dress, tumble into drinking-cups, and generally terminate a night's diversion by being scorched against the lamp, where a heap of slain is generally brushed away every morning.

It would be fruitless for me to attempt anything like a detailed notice of the numerous butterflies and moths met with in this colony; their habits, general appearance, and mode of life are sufficiently known.† With regard to their larva, or caterpillar state, I have only been able to notice a few facts, for it is not often, save with a few common species, that the opportunity is afforded of procuring specimens in a living state, or of discovering the caterpillars from which so many of these beautiful butter-

* Reisen in British Guiana.

† Madame Merlian has given an admirable account of the numerous Lepidoptera of a neighbouring colony.

flies originate. Most of the caterpillars feed on the leaves of plants; one splendid species, of a black colour with yellow rings, is often found on the Franchipan-tree (*Plumiera alba*), the leaves of which it rapidly destroys.

Another caterpillar, about three inches long and half an inch in diameter, of a pale green colour, with orange yellow and black bands on its body, is met with on the "Duranta ellisia" when the leaves are plentiful.

Some caterpillars form societies, and live under their neatly-constructed tents; several construct sheaths, either portable or fixed, in which they fix themselves; others take up their abode in the parenchyma of leaves, where they go through their metamorphosis; most of them spin cocoons, in which they enclose themselves on branches of trees, beams, corners of rooms, grass, and other things; some, at the moment of their change from the chrysalis to the pupa state, eject a reddish-looking fluid, or sort of meconium, which softens or breaks the extremity of the cocoon to facilitate their exit. Several caterpillars are very hairy, others are protected by such sharp spines or prickles as to render it painful to touch them, and occasionally those with spines sting very severely.

According to the account given of them by Professor Erichson, the following varieties of Lepidoptera occur here:

Family Papilionides.

Papilio æneas—common to the whole country
„ ascanius „
„ protesilans „
„ sinon „
„ erostratus „
„ zetes „
„ sesostris „
„ eurymedes „
„ arbates „
„ ariarathus—Savannah & woods
„ polydamas „
„ phronima „
„ demophile „
„ lycymnia „

Papilio philea vel callidryas philea coasts
„ argante vel callidryas argante „
„ Marcellina vel callidryas marcellina Savannahs
„ elathea „
„ albula „
„ amphinome vel ageronia amphinome „
„ feronia vel ageronia feronia „
„ archippus vel danais archippus „
„ cresimus vel danais cresimus

Pieris evadne	
Heliconia erato	
„ cynisca	
„ sylvana	
„ flora	
„ diaphana	
„ antiocha	
„ sara	
„ clytia	
„ metharme	
„ astydamia	
„ melpomene	
„ elimæa	
„ eucoma	
Melinæa mopsa	
Mechanitis polymnia	
„ ninonia	
Ceratinia nise	
„ melanida	
Sais rosalia	
Thyridia psidii	
Hymenitis flora	
Acræa thalia	
Semelia libya	
Agraulis dido	
„ phærusa	
„ julia	
„ vanillæ	
Argynnis claudia	
Melitæa liriope	
Vanessa genoveva	
Anartia amalthæa	
„ iatrophæ	
Marius vel marpesia thetis	
Timetes chiron	
„ orsilochus	
Gynœcia dirce	
Myscelia medea	
Cybdelis mygdonia	
„ maria	
„ liria	
Epicallia ancæa	
Catagramma condomanus	
„ pyramus	
„ clymena	
Heterochroa cythera	
Aganisthros orion	
Megistanis cadmus	
Helicodes hippona	
Morpho menelaus	river banks
„ helenor	woods
„ achilles	„
Pavonia idomeneus	„
„ eurylochus	„
„ ilioneus	„
„ teucer	„
Brassolis sophoræ	coasts
Satyrus laches	woods
„ rebecca	„
Antirrhea philoctetes	„
Hetæra dyndimene	woods
„ astyoche	„
„ lena	„
„ nereis	„
„ piera	„
Euptychia lysidice	Savannahs
„ aranea	„
„ herse	„
„ ocyrrhoe	„
„ libye	„
„ hermes	„
„ ocypete	„
„ myncea	„
„ penelope	„
Didonis thadana	
Cystineura cana	
Nerias phlegia	
„ euterpe	
„ calliope	
Desmozona caricæ	
„ cachrys	
Nymula emilius	
Caria trochilus	
Nymphidion anius	
„ nilus	
Emesis epaphus	
„ monostigma	
Diopthalma eumene	
„ thymetus	
Erycina melibœus	
„ lysippus	
Helicopis cupido	
„ guidus	
Eurybia nicœus	
„ halimede	
Thecla marsyas	
„ lineus	
„ acmon	
„ beon	
Eudamus simplicius	Savannahs
„ catillus	„
„ proteus	„
„ cœlus	„
Tamyris zeleucus	„
„ acastus	„
„ mænas	„
„ amiatus	„
„ aulestes	„
„ apastus	„
„ exadeus	„
„ crinisus	„
„ salius	„
„ virbius	„
Hesperia clavus	
Syricthus arsalte	
„ orcus	
„ domicella	
„ leucodesma	
„ festiva	
Thanaos obscurus	

Eantis thraso
Castnia licas
„ syphax

Family Sphingides.

Sphinx rustica — woods and forests
„ carolina — „ „
„ ello — „ „
Philampelos satellitia
Metopsilus tersa
Macroglossa titan

Family Zygnœides.

Glaucopis vel sphinx melanthus—woods
„ vel „ meones
„ vel „ eone
„ vel „ helymus
„ vel „ maia
„ vel „ caudata
„ vel „ cepheus
„ vel „ glauca
„ vel „ sylvius
„ vel „ archias
„ vel „ mysis

Euprepia bella
„ flaveolata

Family Bombyces.

Liparis diaphana
Gastropacha amilia
Ceratocampa imperialis
Aglia erythrinæ

Family Noctuæ.

Calpe vel phalena soror
Erebus vel „ strix
„ vel „ zenobia
„ vel „ odora
„ vel „ occidua
„ vel „ corisandra

Family Nyctalideæ.

Urania leibus

Family Pyralides.

Palpita perspicalis

Eleventh Order.—*The Rhipiptera.*

In the eleventh order of insects, the Rhipiptera, which is a small one; there are so few species here as to render it unnecessary to devote any space to its consideration; this order was established by Mr. Kirby, under the name of "Strepsiptera" (twisted wings), and includes insects somewhat remarkable for their anomalous forms and irregular habits. Thus, in their larvæ state, many of them live between the abdominal scales of several species of wasps, such as the maribunta (*Polistes*). They are a sort of "Æstri" to other insects, and some species undergo the metamorphosis from caterpillars to a perfect insect in the abdomen of the "Bombi."

Twelfth Order.—*Diptera.*

I have now only to consider the twelfth, or last order of insects, the Diptera, or those with only two wings, with "halteres," a sort of substitute for the second pair

of wings—absent in such insects as mosquitoes and flies which constitute this order.

The insects of this order are inconceivably tormenting to both "man and beast," for, owing to the irritation occasioned by the flies, and the pain and inflammation excited by mosquito bites, "new comers," or persons lately from a cold climate, and in the possession of rich blood, are severely annoyed, while animals of various kinds are equally tormented by their assaults. With regard to mosquitoes (*Culex vel sarcopsylla penetrans*), they unfortunately abound throughout the colony, but are less numerous and annoying in Georgetown than in the country districts, some parts of which, about Mahaica and Berbice especially, are notorious for the prevalence of these tropical plagues; indeed, so great is the annoyance from them that veils are often worn by travellers while riding or driving; they appear at times literally to cloud the air, and towards night countless numbers of them issue suddenly upon the unprotected parts of the body, and commence their unpleasant operations in the way of blood-letting. They swarm upon the head, face, hands, and legs, and may be crushed in hundreds by the slightest motion. They accompany their attack with a loud buzzing noise, and, when numerous, may be positively felt to strike against the person.

Fortunately for society, it is only in some places and at particular seasons that they prevail to the extent alluded to. Nor are they even so numerous here as they have been noticed by Humboldt,* who asserts that in some places a cubic foot of air, to the height of three or four toises, is often peopled by a million of winged insects.†

* Humboldt's Personal Narrative.

† A cubic foot contains 2,985,984 cubic lines, and the largest species of the culex tribe is 1.8 line long from the head to the extremity of the corselet, without reckoning the legs. The generality, however, are not half that size.

There are a great variety of mosquitoes met with in this colony; I have counted six or seven kinds, but I believe them to be far more numerous, and have heard it mentioned by good authority that there are at least sixteen different kinds.

The varieties I have seen were as follows:

1. The body and legs marked black and white alternately.

2. Marked like the first, but with feathery appendages on the head.

3. Grey brown in colour, with feathery tufts on the head.

4. Greyish brown, but without the feathery appendages.

5. Greyish brown, and with the feathery tufts curved.

6. A species of green mosquito, often seen in thousands after drought. They are of small size. Are these latter the young of other species?

The largest species here is called the "Gallon Nipper" (*Culex pulicaris*). It is surprising with what greediness and severity it punctures the flesh.

After all, mosquitoes cannot be said to bite; the instrument of attack used is a sort of stylet, through which the blood is sucked up into the stomach. It is astonishing to what size the stomach distends after feeding; the red blood within can be distinctly seen through the transparent parietes of the body. If preserved and watched in that state the size gradually diminishes, and after about two days' abstinence the mosquito dies, apparently from starvation. When gorged with blood it is very lazy, and flies heavily if forced to move. The female mosquito deposits her eggs in water, where small strings of them may occasionally be noticed floating about; after a time these eggs are hatched, and the larva frisks and gambols about in the water. In this state it is an ugly looking thing; a slender taper body, with a large dragon-like head, which is gene-

rally held downwards. They swim with great velocity, and dive from time to time, but quickly return to the surface to breathe. In the stagnant water of trenches, ponds, and casks, they are to be seen in every stage of their metamorphosis. It is a subject of remark that mosquitoes injure more severely at certain times than at others, and that the males are not so injurious in their effects as the females. The minute wounds inflicted occasion great local inflammation in subjects predisposed to their attacks, and often induce troublesome ulcers, the scars of which remain for years, but it is equally remarkable that the old inhabitants and negroes rarely suffer from the punctures of these insects. The mosquito is analogous to the gnat (*Culex pipiens*) of Europe; on the Spanish Main the term mosquito (a little fly) is applied to the sand-flies, which belong to the genus "simulium;" while the insect called in the English colonies "mosquito," is there known as the zancudo, signifying "long-leg." The sand-fly (*Simulium pertinax*) is also a very troublesome insect, which is found on the coasts. It occasions severe pain, and much local irritation. It is so small as almost to defy detection, and there are several varieties, whose habits and general appearance are alike.

Diptera—Flies.

With regard to the other varieties of dipterous insects, such as the horse-fly, the common fly, and their allies, they are found in particular localities and seasons in great numbers. The larger species, such as the "tabani," prove extremely troublesome to horses, cows, and indeed to all cattle; they pierce the skins of these animals to gorge themselves with their blood, and some varieties, as the "æstri," deposit their eggs by means of a squamous ovipositor, composed of small tubes fitted one within the other, in the mucous and cutaneous surfaces, where the

larvæ are developed, and often occasion tumours or troublesome ulcers. Other varieties, belonging to the family "muscariæ," infest the sores of animals, as well as of human beings; they attack meat and food of all kinds, and very often lay their eggs there, much to the disgust and annoyance of housekeepers; they are often noticed buzzing about the dying and others but feebly alive, and seem to possess an instinctive knowledge of approaching dissolution. They swarm in thousands on the bodies of the dead, and in neglected graveyards consume rapidly the putrefying and mouldering corpses exposed to their terrible, but perhaps useful, assaults. Some species frequent the "boiling-houses" of estates, and crowd the sugar and molasses casks; whilst others confine themselves to the houses and storerooms of the inhabitants.

The following varieties are met with:

Tabanus mexicanus
„ occidentalis
„ tibialis
Diabasis scutellata
Lepiselaga lepidota
Chrysops tristis
„ immaculata

Family Asilici.

Laphryia fascipennis
„ clavipes
Asilus barbatus
„ nigritarsis
„ striola

Family Bombyliarii.

Anthrax erythrocephala
„ hela

Family Stratiomydæ.

Hermetia illucens
Cyphomia cyanea

Family Syrphicæ.

Volucella obesa
Eristalis vinetorum
„ fasciatus

Family Muscariæ.

Tachina analis
Dexia melaleuca
Sarcophaga chrysostoma
Lucilia macellaria
„ putrida
Ochromyia bicolor
Herinea violacea
Calobota erythrocephala
„ insignis
„ annulata.

Infusoria.

The wonderful minute animals constituting the Infusoria present a very interesting subject of research to those who are fond of using the microscope. These

singular creatures, which have only lately been brought within the observing powers of man, are abundantly found both in the fossil and living state in the waters and soils of this colony. I commenced an investigation of this subject in 1850 and 1851, and was not then aware that the learned Professor Ehrenberg had minutely examined different specimens of earth procured from the colony, and had found a variety of infusoria, a table of which is published in R. Schomburgk's "Reisen in British Guiana," and from which I have compiled the list submitted. The soil which I examined was principally from Georgetown and the neighbouring estates, viz., Haagsbosche, Petershall, Rome and Houstoun, Kitty, Enmore, and occasionally from some places in Essequebo and the interior, and from the borings of artesian wells. The species which I found most common were the "Navicula," "Closterium," and "Lithostylidium," in the fossil state in fine soil; whilst in the fresh waters the "Epiphyxis," the "Navicula," the "Closterium," the "Ophrydium," the "Vorticella," the "Colacium," the "Doxococcus," and many others, were met with. They are only, I believe, to be found in the alluvial lands, and in the waters of the colony. They give rise to one kind of phosphorescence of the sea, though in themselves invisible. They form indestructible earths, stone, and rocky masses by the accumulation of their siliceous shells or coverings. The invisible infusoria are sometimes hurtful by deteriorating water, and may occasion unpleasant odours. Can it be possible that they vitiate the atmosphere and contribute to the development of malaria and other tropical maladies?

Specimens of Infusoria met with in British Guiana, arranged by Professor Ehrenberg, and published in R. Schomburgk's "Reisen in British Guiana:"

POLYGASTRICA.	WHERE FOUND.
Achnanthes brevipes	Demerara
Actinocyclus biseptenarius	Haiama
Actinoptychus biternarius	„
„ senarius	
Arcella ecornis	Pirara
„ areolata	
Bacillaria vulgaris	Savannah mould
Biddulphia pulchella	
Coscinodiscus eccentricus	Demerara islands
„ disciger	Haiama
„ radiatus	Arabian coast
„ subtilis	Haiama
Cocconeis scutellum	„
Dictyocha epiodon	Arabian coast
Dictyopyxcis cruciata	Haiama
Difflugia areolata	Pirara
Desmogonium guianense	Woodrift Demerara
Diploneis didyma	Demerara
Discoplea	Pirara
Eunotia amphioxys	Arabian coast
„ biceps	Tapacuma
„ formica	„ „
„ crododilus	Tapacuma and Pirara
„ monodon	„ „
„ pileus	„ „
„ tridentula	Tapacuma
Fragillaria glabra	Pirara and Arabian coast
„ rhabdosoma	
Gallionella crenulata	Demerara and Essequebo
„ granulata	Pirara
„ distans	„
„ sulcata	Haiama
Gloeonema sigmoides	
Glomphonema margaritaceum	Pirara
Himantidium arcus	Pirara and Tapacuma
„ papilio	Demerara
„ parallelum	Pirara
„ zygodon	„
Navicula affinis	Pirara and Sandhills
„ amphioxys	Essequebo
„ amphisphenia	Pirara
„ diaphana	„
„ dilatata	„
„ fulva	„
„ gibba	„
„ lineolata	„
„ demerara	Tapacuma
„ rostrata	„
„ schomburgkorum	Pirara
„ sigma	
Pinnularia dicephala	Pirara and Sandhills
„ inæqualis	Pirara
„ macilenta	„
„ borealis	Savannah mould
„ nobilis	Essequebo
„ schomburgkii	Haiama
„ striatula	
„ viridis	Pirara

POLYGASTRICA.	WHERE FOUND.
Stauroptera cardinalis	Essequebo
Surirella craticula	„
„ bifrons	Pirara
„ constricta	„
Synedra ulna	Essequebo
Trachelomonas volvocina	Pirara

CLASS—PHYTOLITHARIA.

Amphidiscus obtusus	Demerara
„ rotella	Bartica grove
Lithasteriscus radiatus	Haiama
„ tuberculatus	Pirara, &c.
Lithosphaera osculata	Demerara and Essequebo
Lithodontium bursa	Pirara
„ furcatum	„
„ nasutum	„
„ platyodon	Savannah mould
„ rostratum	Pirara
Lithostylidium amphiodon	Arabian coast; A. Regina
„ angulosum	„
„ articulatum	Pirara
„ clepsammidium	Pirara and Arabian coast
„ clavatum	„ „
„ crenulatum	Essequebo and Cumaha
„ curvatum	„ „
„ obliguum	„ „
„ pes	„ „
„ polyedrum	Pirara
„ proboscis	„
„ quadratum	Pirara and Barina
„ rude	„
„ sceptrum	„
„ semicirculare	Cumaha
„ serra	Pirara
„ spiriferum	„
„ trabecula	Essequebo coast
Spongolithis acicularis	Demerara and Essequebo
„ amphicephala	Pirara
„ aspera	Demerara and Essequebo
„ caput serpentis	„
„ cenocephala	„ Pirara
„ clavus	Essequebo coast
„ fistulosa	Demerara and Essequebo
„ foraminosa	Haiama
„ fustis	„
„ inflexa	„
„ obtusa	„ Essequebo

SECOND GREAT DIVISION OF THE ANIMAL KINGDOM.

Animalia mollusca—Mollusks.

After having described the animals belonging to the first division of the animal kingdom, or those with vertebræ, I have now to consider those which have neither an articulated skeleton nor a vertebral canal. These animals, which are known as mollusks (*mollusca*), include the varieties of shells and their inhabitants so largely represented in the West Indian islands and many other parts of the world, but which are unaccountably scarce in this colony. Their structure, general appearance, and habits are too well known to require description; they have been divided into six classes:

1. Cephalopoda.
2. Pteropoda.
3. Gasteropoda.
4. Acephala.
5. Brachiopoda.
6. Cirrhopoda.

Of the first class, Cephalopoda, the singular animal, so well known as the Portuguese man-of-war, called by the ancients Nautilus and Pompilus, and by the moderns Argonauta argo, is almost the only representative. It is frequently seen with its gaudy crimson sail floating on the tranquil waters of the river Demerara, but is seldom

troubled, owing to the unpleasant sensation it occasions when seized by its long tendril-like limbs. These substitutes for feet enable it, however, to cling to objects for protection and repose.

Of the second class, or Pteropoda, or mollusks, which swim in the ocean, but have no feet with which to attach themselves to any object, there are not, I believe, any species known here.

Of the third class, or Gasteropoda, there are a few varieties which require notice. The common slug is a good instance of this class, but it is scarcely or ever seen in Guiana. In the woods, mountains, and plains of the interior, specimens of Gasteropoda are frequently found, but in general the shell only is obtained; in the trenches and fields of plantations they are not uncommonly met with alive. The following are the species found and described:

CLASS III.—*Gasteropoda.* ORDER—*Pulmonata.* FAMILY—*Heliceæ.*

Only five species of this family have been found, viz.:

Bulimus hæmastomus—Takutu woods
„ cinnamoneo lineatus—woods and river banks
„ lita—woods, on leaves
Bulimus galtina sultana—woods, on leaves
undatus—woods, on leaves

ORDER—*Pectinibranchiata.*

Of the family *Ampullariaceæ*, the most common are the following; many of them when picked up have a very disagreeable and fœtid odour:

Ampullaria urceus—Barima waters
„ zonata—Savannah swamps
„ papyracea—Savannah do.
„ sinamarina—(rare)—river Corentyn
Ampullaria guianensis—Savannah swamps
„ orinoccensis—Pomeroon waters

Belonging to the family *Melania* are the following species:

Melania atra—rocks in flowing waters, as rivers Essequebo and Mazaruni
„ brevior „ „ „
„ chloris „ „ „

FAMILY—*Buccinoida.* GENUS—*Marginella.*

Marginella cœrulescens — woods and streams
Buccinum—woods and streams
Purpura cataracta
Murex
Fusus morio
Pyrula melongena
Nucula rostrata
Solen caribbæus
Turbinella?

The next species belongs to the family of *Neritina;* it is a pretty-looking little shell, and is rather common:

Neritina zebra—sand-banks, rivers Demerara and Essequebo

CLASS IV.—*Acephala.*

As implied by the name, the Mollusks under this class have no apparent head; there are but a few varieties here, and those but rarely seen:

Unio hylca—in waters about Takutu
Monocondylea parchappii—in waters about Takutu
Hyria syrmatophora—in the neighbourhood of Awaricuru
„ corrugata „ „
„ humilis „ „
Castalia ambigua—Takutu waters
Anodonta ensiformis „ „
Teredo navalis—found on submerged piles and ships' bottoms, to which it is very destructive

CLASS V.—*Branchiopoda.*

All the Branchiopoda are invested with bivalve shells, which are fixed and immovable; the species are rare in this colony:

Terebratula

Class VI.—*Cirrhopoda.*

The animals included under this class are small, and are found fixed to rocks, piles of wood, ships' bottoms, to which some species, as the barnacles (*Lepas anatifera*), prove very destructive. Barnacles are very common here about the submerged timbers of stellings, bridges, and boats; it is astonishing sometimes to observe their numbers, and the havoc which they occasion to piles and rafters:

Lepas anatifera—submerged timbers, rocks, and other substances.

THIRD GREAT DIVISION OF THE ANIMAL KINGDOM.

Animalia articulata—Four classes.

1. Class Annelides—Worms.
2. Class Crustacea—Crabs.
3. Class Arachnides—Spiders.
4. Class Insecta—Insects.

The classes comprising this division of the animal kingdom are sufficiently known to render any description of their structure and functions necessary. I shall, therefore, at once proceed to consider the species of each class met with in this colony.

Class I.—*Annelides*—Worms.

The class of worms has been divided into three orders, without including those found inside the bodies of man and animals, which are termed entozoa. There is no necessity to enter upon any lengthened notice of this class or its minor orders. The common earthworm (*Lumbricus terrestris*) is common enough in soils, especially in wet weather, when they approach the surface, and are greedily sought after by pigs and other animals who prey upon them, and root up the ground destructively for that purpose. The leech belongs to this class, but except a large common kind, not the medicinal leech (*Hirudo medicinalis*), none are found.

Class II.—*Crustacea.*

The animals belonging to the second class, Crustacea, are frequent in numbers but not in variety in Guiana. The mud flats on the coasts and on the banks of the rivers abound with innumerable crabs, which at low water may be seen in thousands issuing from, or retreating to their holes. By boring cavities on the embankments of estates they frequently occasion much mischief by undermining the earth, and allowing the water to ooze through. Some species inhabit the fresh waters; and both crabs and prawns are constantly to be found in the canals and trenches of many estates. It is curious to observe their habits in the numerous mud flats throughout the colony.

The largest species of crab is the Bonoori, which is found along the coasts and rivers. It is a species of Gecarcinus. It is of a bluish colour above and brown underneath, and is much esteemed for the table.

But the crab which is most commonly caught and sold for eating is the Cancer uca una, which is found in mud flats all over the colony. It is of a reddish colour, and the legs are hairy; at certain seasons of the year they are not considered good to eat.

A very common kind of crab is to be found in thousands along the mud flats about Georgetown. They are named the calling crabs (*Cancer vel gelasinus vocans*), from the peculiar habit they have of waving the large claw, as if making an apellative gesture; they vary much in size, and the older ones are remarkable for having one of the claws much larger than the other; sometimes it is the right, at other times the left claw which outgrows the other in size, and which is used for excavating holes in which to burrow. At low water these crabs may be seen in great numbers on the mud flats of the river, with their large claws erect, or slowly waved, like the human hand;

at times they make a loud, clacking noise with these claws; these crabs are not eaten except by the coolies and are called by the creoles Madeira crabs.

A species of crab allied to the above is the boatman crab (*Gelasinus marionis*). In this crab one claw is generally much larger than the other; the legs are of a reddish colour, and the body of a rhomboid form, and dark in hue. It is found in mud flats, and if brayed in a mortar and stewed, is good to eat.

The smallest kind of crab here is the Pinnoteres, which in thousands may be seen crawling along mud flats, about bridges and stellings, and in graveyards and swampy places. They vary in size from one half to one inch in length.

A remarkable species of crab is called here Jumbi, or Soldier Crab (*Grapsus cruentatus*). It is met with about the stellings and bridges, and also in trenches. It is of yellow colour underneath; but the back and legs are of a bright red colour, mottled black, yellow, and green; its legs are hairy. These crabs are very shy, and conceal themselves under stones and other substances, and always walk sideways. They have been known to climb trees, and are very active: they are not eaten—indeed, the flesh is considered poisonous, hence the name jumbi crab.

Other varieties of land crab are known, but I have never been able to see specimens of them, nor are they described in books. The natives call one species the buck crab. It is very like the bonoori, and is perhaps a species of gecarcinus. It has a bluish back, and the legs are of a whitish hue, tinged with violet.

Another kind is named the swamp crab; it is of an orange colour, with reddish legs, and is found in swamps about the Essequebo. Of the water crabs, or those which swim well, and have flat fins to their legs, the most in-

teresting is that called here the sherigo crab (*Portunus vel Thelpusia*). It is caught in the trenches and canals, and pinches severely with its claws ; it is a great scavenger, and feeds on almost everything. The colour varies; I have seen them yellow, reddish, and of a greenish hue, sometimes almost white. The back is glabrous, and curiously marked with deeply impressed lines, which have a singular resemblance to the bust and body of a female, so much so that native artists, by the addition of a head and feet, touched up with a little paint, complete in a few moments a capital female figure on the top of the shell.

The prawn and shrimp are both found here in the rivers as far as the salt water extends.

The prawn (*Palæmon serratus*) attains to the size of four or five inches, and is of a pale steel blue colour, with greenish-coloured tail and legs. The shrimp (*Crangon vulgaris*) and another species of prawn are likewise found, and are much esteemed for the table.

Class III.—*Arachnides*—Spiders.

The spiders (*Arachnides*) belong to the third class of articulata, and are too well known to require any description of their appearance. They abound in this country, and may be found in every house, almost on every tree, and present a never-failing field of observation for the naturalist. Some are very small and look like minute crabs, and are found on plants and leaves; others are very large, and hide themselves among linen, books, and unfrequented buildings ; the largest or crab spiders are very fierce, and will attack small vertebrated animals, such as humming-birds, pigeons, and chickens. The eyes of spiders are very curious organs ; independent of their number and the singular manner in which they are arranged on the

head in the different varieties, they offer an interesting subject of research. The females lay a great number of eggs, which are hatched in a round kind of nest of a white cotton-like appearance, which they carry about with them, and only give up in the moment of extreme danger. I have opened many of these nests, and have counted several hundreds of tiny spiders packed closely together, yet nimble and lively when liberated from this receptacle. Spiders are great enemies to cockroaches, dragon flies, and insects. The bird spider (*Mygale avicularia*) is about an inch and a half long, extremely hairy, and of a blackish colour; the tips of the feet and palpi, and the inferior pili of the mouth being of a reddish hue; the bite is severe. Another large species is called the brown tarantula (*Mygale fasciata*). The black tarantula (*Cteniza nidulans*) is also of large size, and is found in woods and on the ground, the bites of these tarantulas or "Araignées-crabes," as they are called by the French colonists, is reputed to be dangerous, and frequently occasion much irritation and fever. The large spotted spider (*Epura clavipes*) has two eyes approximated in pairs on each side; while the remaining four are arranged in a quadrilateral form in the middle.

Another species of crab spider is the Acrosoma spinosa vel gastracantha aculeata. It is found on branches of trees in woods; as is likewise a species of Nephila and Argyopes argentata. These are all insects which spin webs to entrap their prey.

There are several others whose habits are very curious to observe. One species suspends itself by a long thread from ceilings of rooms and galleries, and is thus swayed backwards and forwards by the breeze until it seizes its victim, some unsuspecting fly or other small insect; if alarmed or approached, it climbs nimbly up its rocking ladder, and rolls up the thread as it ascends. Others are

known as hunting-spiders; they are in general small, and do not appear to spin. They frequent windows, tables, and plants, in search of their prey, which when seen is sprung upon in an instant, just as the jaguar pounces upon a deer. This must be a species of the Salticus.

A sedentary spider, and one that is very commonly seen to spin its web in the corners of dark rooms, is allied to Clubiona punctata; it is of a yellowish brown colour, spotted black on the legs; the eyes are eight in number, arranged in two equal rows of four each. Allied to this species is another kind of small spider, Thomisus, called by many crab spider. Other small species appear to belong to Lycosa, Theridion, Dolomedes; but this is merely conjecture on my part, for I have never seen them described.

The long-legged spider occasionally seen flitting about windows is probably an Opilid. It is a kind of daddy long-legs, and thinks nothing of the loss of one or more of its spindle shanks, but escapes without difficulty. There are also the vagabond spiders, the water spiders, and others met with on plants, on the ground, and in streams, but beyond watching their movements I have not been able to become acquainted with them.

The scorpion spider (*Phrynus reniformis*) is a singular-looking animal; the two anterior tarsi are very long and slender, and resemble setaceous antennæ.

Of the true scorpions there are several varieties here, some of which are reputed to inflict dangerous, if not fatal, stings. I heard of an instance lately where a black child about ten years old was wounded by the Bush scorpion as it is called (*Scorpio*), while removing some clothes from the ground in Essequebo; the arm swelled rapidly, and although the girl was previously healthy, she died within twenty-four hours of the accident. The species known are Tityus, Thelyphonus, Scorpio (several species).

Of the pseudo scorpions there are a few specimens here, which are found among books and papers, on rocks, trees, and even animals. Of the true scorpions there are likewise other species, which are frequently termed Tarantulas; indeed, this expression is commonly applied to any large hairy kind of spider, and has given rise to much confusion.

The Chelifer americanus or cancroides is frequently seen in collections of old books and manuscripts which have been long neglected; they prey on the small insects which destroy the paper, although thought by many to be the cause of the mischief themselves.

The other species are Amblyomma ovale and Amblyomma myrmecophaga; the latter so called from being found on the large ant-eater.

FISHES.

CLASS IV.—*Pisces.*

1ST DIVISION: 1ST ORDER. ACANTHOPTERYGIANS.—1ST FAMILY. SNOOK, JEW FISH, SNAPPERS—2ND FAMILY. GROOPERS—3RD FAMILY. BASHAWS; OTHER SPECIES—5TH FAMILY. MENOID FISH, SHAD, SWORD FISH, PILOT FISH—11TH FAMILY. MULLETS—12TH FAMILY. GOBOID FISH—13TH FAMILY. PACOOMA—14TH FAMILY. LABROID FISH (VARIETIES OF)—2ND ORDER. ABDOMINAL MALACOPTERYGIANS—2ND FAMILY. CARP FAMILY, SALMON CARP (VARIETIES OF), FOUR EYES, GAR FISH—3RD FAMILY. SILURIDÆ (VARIETIES OF), HASSAR, DORAS, ARIUS, PIMELODUS, PLATYSTOMA, CAT FISH, LORICARIÆ, DAWALLA, LAU LAU, GILBAGRE—4TH FAMILY. SALMON FISH, PACUS, CARTABAO, DOG FISH, CHALCEUS, PIRAIS, &C. &C.—5TH FAMILY. HERRING FAMILY—3RD ORDER. SUBBRACHIAN MALACOPTERYGIANS, FLOUNDERS—4TH ORDER. APODAL MALACOPTERYGIANS—EELS, ELECTRIC EEL—5TH ORDER. SOPHOBRANCHI—6TH ORDER. PLECTOGNATHI. 2ND DIVISION: CARTILAGINOUS FISHES—SHARK (VARIETIES OF), SAW FISH, RAYS.

Pisces—Fishes.

THE fishes constitute the fourth class of vertebrated animals, and are so distinct from the others as to require little notice. Their peculiar structure, their mode of respiration, their habits and economy, are sufficiently known to most persons to render a special introduction necessary, and I will at once proceed to give some account of those which are found within the boundaries of this colony. The subject has been already most ably treated by several writers, but especially by Sir Robert Schomburgk, whose interesting description of the fresh-water fishes of British Guiana form two of the volumes of the Naturalist's

Library, and to which I would especially refer those who desire to become better acquainted with the several members of the finny tribe there portrayed. The variety of fishes is very great, the neighbouring seas and the numerous rivers and creeks, nay, the very trenches, abound with them; and yet fresh fish of good quality is both rare and expensive. The high price of labour is the cause of this; but latterly, the great demand for fish has brought a larger quantity into the market. Another reason of its being dear is the impossibility to keep it fresh for more than a few hours in such a warm climate.

The number of fishes abounding in the waters of the coasts and the rivers and canals is truly astonishing. The negroes and coolies evince an unmistakable partiality for the "gentle art." It is a lazy and a cheap mode of living; at early dawn, canoes or corials are manned by able-bodied fishermen, who paddle away for miles off the coast to the various fishing grounds, where they quietly take up their station for the forenoon, unmindful of the burning sun or drenching rain which is directed on their naked and unprotected bodies. The lines and nets are thrown out, and in a few hours the boats are sufficiently loaded with jew fish, gilbagre, flounders, cuirass, and other odd fish, to justify a return home. With reeking bodies and boisterous shouts the fishermen may be heard paddling with activity, and often racing to get first to the market, where the produce of their industry is soon disposed of. Nor are the money-making Portuguese heedless of the fascinating sport; they are often to be noticed in their boats moored in the centre of the river, waiting patiently till their hooks and lines have captured the requisite number of fish. Their little skiffs are seen dancing on the waters at all hours of

the tide, but they seldom venture like the others out to sea to catch fish. Numbers of men and boys occupy the numerous wharves or stellings to join in the trade, or spend a listless hour in hooking up quantities of small and undisposable fish, which, however, they appropriate to their own use; while others, fishing-rod in hand, saunter along the canals and trenches to fill their baskets with hassar, cuffum, cat-fish, and whatever else may turn up. In large trenches and fresh-water ponds the valuable queriman is eagerly sought after by others, who find a ready sale for it. This is, *par excellence*, a country for fishermen. Old invalids and sore-footed lads are constantly casting their nets in the troubled waters, and bagging basketfuls of tiny, delicate fish. At low water the negroes ramble along the mud flats, thrusting their hands into the deep holes where the pacooma are known to lurk, and, heedless of the bite, drag them grunting and grumbling out of their banqueting rooms. Others are splashing through the mud, often knee-deep, in chase of the astonished crabs, who are edging off as quickly as possible, till they are seized, and thrust as prisoners into the formidable "quaik" (an Indian basket made of thick reeds), where, with broken claws and crushed heads, they are packed as closely as Africans in a Brazilian slaver. Men and boys are equally diligent in dredging for prawns and shrimps, which in great numbers are captured, and contribute to the dainties of the table.

The following is an attempt to give an account of the principal fishes met with, arranged with some slight pretensions to order:

Order 1.—Acanthopterygians, or such as are distinguished by having spines forming part of their fins, and by other anatomical differences, comprise a

large number of what are termed true, or ordinary fishes—in contradistinction to another division known as cartilaginous fishes—such as the shark, &c. This order is divided into numerous sub-orders or families; of the perch family or tribe (*Percoides*), the snook (*Centropomus undecimalis*) is the worthiest representative. It is the pike of the hot parts of America, and is very much in demand for the table. It varies very much in size, the largest occasionally weighing from 20 to 30 lbs. It is of a silver colour tinged with green, and is found along the coasts and up the rivers, being caught both in salt and fresh water. It has a projecting and flattened muzzle like the pike, but its teeth are small and crowded together.

A sea fish, Serranus galeus, allied to this, is found on the coast, but it is not so large, being scarcely a foot in length. Its flesh is eaten, but it is not so delicate in flavour as the snook.

The jew fish (*Plectropoma chlorurum*) is a large golden-coloured fish, which is found in great plenty along the coasts. Its brilliant colour renders it a pretty-looking fish; but its flesh is coarse, and it is only eaten by the poor. This fish is called a grooper in the islands, and at certain seasons it is not eaten on account of its supposed poisonous properties. It is very plentiful off the coast.

The snapper fishes abound in the waters of the West Indian islands, but are not the same species as are here known as snappers. The fishes so called by fishermen here are of two kinds, the red and the white; the former are caught about three or four feet in length, and fetch the price of six guilders. The white species are smaller, and I have eaten them and found them good. These fish are only caught at particular seasons. In the mouth of the river Essequebo a small fish

allied to the snappers is found; it is known as the Pomotis catesbei, but is seldom seen in town.

Of the second family, or mailed cheeks, there is a small fish here allied to the flying gurnards, but having no supernumerary fins or wings; it is the Cephalarantes vel gasterosteus spinarella of Cuvier.

There is a species of grooper (*Scorpæna*) found here; it is a scaly fish with prickly protuberances, and attains the length of three to five feet; its flesh is coarse, but is eaten, and has never to my knowledge proved poisonous, which is occasionally the case with the groopers of the islands.

The third family of fishes of this order is the Scienoides, and include the bashaws. These fish are called grunts in the islands, and are of several kinds, found both in the salt and fresh water. The salt-water species are two in number, gold colour and white, and vary in size from one to two feet. The fresh-water species is of a silvery white, with a greenish tinge on the back.

The other species of fish in this family are as follows:

Otolithus toe roe	Ancylodon jaculidens	Micropogon trifilis
„ leiarchus	Micropogon lineatus	Polycentrus (2 species)

There are but few species of fish belonging to the menoid family (*Menidés*, Cuvier), and they are only found at the mouths of the rivers, or in salt water.

The following are the varieties met with—Gerres, Rhombeus, about a foot in length. It is much esteemed for the table.

The shad (*Gerres zebra*) is occasionally caught by fishermen at the mouth of the river, and is considered excellent eating. It is sometimes termed Mocharra. In Barbadoes this fish is occasionally found in fresh-water ponds, where they improve in flavour. Acharnes speciosus also belongs to this family; it is a small fish, from six to eight inches in length.

Seventh family, Scomberoides (mackerel tribe).

The sword fish (*Xiphias gladius*) requires no description. This curious fish is only known to us by the injury which it occasionally inflicts on the bottom of ships trading here. Upon more than one occasion the trenchant snout of this formidable fish has been found embedded in the planks of a vessel which had been thus curiously assailed, bringing away, however, in triumph, the dangerous weapon of its wounded opponent. This savage sabreur attacks indiscriminately boats, bathers, and marine animals; nay, the very rocks themselves are subjected to assault and battery.*

The pilot fish (*Naucrates vel scombei ductor*) is frequently seen by those approaching these shores, but is seldom caught or noticed in our immediate neighbourhood, although its allies, the sharks, abound in great numbers. It is the Pompilus of the ancients, and rarely exceeds a foot in length. It is frequently seen in the wake of ships, and appears a social little fish, fond of good company, and the advantages to be derived from travelling.

The mullets (*Mugiloides*) constitute the eleventh family of the Acanthopterygians; they are found both in salt and fresh water. A small species (*Mugil albula*) is found in canals and trenches, and is much esteemed on account of its flavour. The quality of the mugil varies with its habitat; in the open sea it is a poor fish, but in running streams it enjoys a higher character at table.

The following other varieties are found here:

Mugil liza—about 1½ to 2 feet in length. | Mugil curema—about 1½ feet long.

Of the family Gobioidei there are a few species, which

* The pugnacity of this fish has been alluded to by the ancients in the line:
"Et durus xiphias ictu non mitior ensi."

are recognised by their dorsal spines being thin and flexible; the species in Barbadoes are known as the Rock Fish.

The following are the species met with here:

Gobius bacalaus, or Goby fish, allied to the blennies, is commonly found in the salt waters of the coast, and considered good food by the inhabitants.

Some fish of this family are almost the only ones known which construct nests of sea-weed for their young. The male patiently waits till the lady gobies arrive to deposit their eggs, which he fecundates, and afterwards defends the young ones.

Eleotris guavina vel dormitatrix, or the sleeper, is found at the mouths of the rivers, and attaining a length of from eight to ten inches; it has a depressed head, inflated cheeks, and fins spotted with black, and is frequently caught in mud flats and marshy spots.

Of the pediculated Pectorales there is the Batrachus surinamensis. It is usually known as the Pacama by the colonists, who consider it excellent food for the table. The Pacama or Pacooma is an ugly-looking fish, from one to two feet in length, found in holes on the mud flats, where the fishermen hook them out at low water. The head is large and flat, frog shaped; they bite severely; they make a kind of grunting noise when captured. This fish is very plentiful at times.

Of the Labroides, or fourteenth family of fishes, there are several species met with; the body is generally oblong and scaly; the single dorsal fin is supported in front by spines often furnished with membranous appendages.

Of this family the following varieties are found:

Acara margarita
„ nassa
„ letramerus
„ heckelii
Chætobranchus heckel
Geophagus jurupari
„ surinamensis
„ leucostictus

Geophagus pappaterra
„ ocellalis—sun fish or lugunani
Crenicichla saxatilis
„ vitatta
„ lugubris
Cychla labrina
„ fasciata
Cychla rutilans
„ flavo-maculata
„ nigro-maculata
„ argus
„ trifasciata
„ ocellaris
„ monoculus
Centrachus (several species)

The Carp family (*Cyprinidæ*), order second of abdominal malacopterygians, comprises some interesting species. Several small headed, large eyed fishes of the carp tribe are found in the rivers of the colony. They frequent fresh and quiet streams, and feed on herbs, grain, and mud, of which latter article of food they never lack a supply in this alluvial region.

The Yacuta (*Prochilodus rubro-tæniatus*) is a fresh-water fish found in several of the rivers, where they are captured by nets, or shot by arrows. Their general size is about eighteen inches in length. They appear to feed on the mud or slime which attaches to rocks or stones, swerving from side to side, apparently sucking. They ascend the rivers about April to spawn. The colour is silvery white, with a greenish back, with patches of lake on the fins and tail.

Two other species of salmon carp are also met with (*Prochilodus binotatus* and *insignis*), whose habits and appearance are much the same as the first one; none of these fish take bait; they live only a few minutes after they have been taken from the water. The yacuta is chiefly found in the Essequebo and its tributaries; but neither of the two others have been caught either in the Essequebo or Demerara rivers. The carp family are notorious for their long lives, but whether or no the species met with here are as venerable as their European allies, I am not able to decide, inasmuch as their abodes are remote from the civilised districts, and are seldom visited by the inhabitants.

Of the carp family (*Cyprinidæ*) there is found a curious little fish known here as the Four-eyes (*Anableps tetrophthalmus vel cobilis anableps*), which may constantly be seen in shallow water near mud flats, where they swim and plunge about in shoals. If pursued or frightened, they leap above the water and dart at a rapid pace in jerks or springs along mud banks. They derive their name of four-eyes from the singular fact of the cornea and pupil of each eye being divided into two parts by transverse bands, so that they appear to have two pupils and a double sight, which is not the case, as each eye has but one crystalline lens, &c. The eyes, besides this singular character, are very prominent, and give them a peculiar appearance when feeding on the mud. The female is viviparous. Another species is also found, A. microlepis vel coarctatus. It is found in mud flats like the other, and is occasionally eaten, but neither varieties of this fish are esteemed. At low water thousands of four-eyes may be seen revelling in the slimy mud, along which they glide rapidly to gain the water if disturbed in their sports. A small fish, Pœcilia vivipara, found in the trenches, is also allied to the above. It is about two inches long. It flows in and out with the tide, unconscious of the danger it incurs in thus swimming through a city.

Of the Pike family (*Esoces*) of the same order, the Gar fish (*Belone vulgaris vel cáribbæa*) is a representative. This snake-like fish attains here the size of two feet or more, and is of a light greenish brown colour above, and silver white below; it is eaten by the inhabitants. Its bite is very painful, its long and narrow snout being armed with numerous sharp and strong though slender teeth. The vertebræ of the spine and some of the other bones have a peculiar greenish tinge,

which has frightened some people, who were under the impression that it was of a poisonous character. I have noticed this appearance of the bones both before and after cooking. It is evidently unconnected with any abnormal quality of the fish.

The third family of this order is the Siluridæ, comprising such fishes as are distinguished by the absence of true scales, of which we have a very great variety in this colony. The greater part of these are beautifully represented in the "Fishes of Guiana," by Sir R. Schomburgk, in the Naturalist's Library, and a condensed account of them from that interesting work will be here given.

Porcupine acanthicus (*Acanthicus histrix*) belongs to the sub-family Loricarinæ, or mailed cat-fish: it is a powerful fish found in the river Branco, and is remarkable for a row of spines near the gills; it is of a yellowish brown colour, and is considered good eating.

Several varieties of the Hypostomas are found in the same river. The spotted Hypostoma (*H. pecostomus*) is of a beautiful greenish colour with black spots; its length eight inches or more. The shark tailed Hypostoma (*H. squalinum*) is of a greenish brown, spotted black; about one foot in length, and found in several of the rivers, living under roots of trees and rocks during the day, and feeding chiefly at night.

The dotted Hypostoma (*H. punctatum*); the bearded Hypostoma (*H. barbatus*) and other species are found in these waters, but are by no means familiar even to naturalists.

Other species have been lately described by Richard Schomburgk.

H. commersonii	H. temminckii
„ itacua	„ nudiceps

These fishes swim with great rapidity and often with

the back undermost;* they are chiefly found where the current is most rapid, and conceal or fasten themselves by rock and stone.

Varieties of the Callicthys have been found here, and several species have not been fully described.

The common Hassar, or hardback (*C. pictus*), belongs to this tribe. It is of a dark colour, and covered with a sort of armour, and is found in trenches, muddy walls, and even on land, for these fishes, like many others of this family, are capable of living a long time out of water, and are known to travel overland by means of their spines and fins. They are from six to eight inches in length, and are eaten readily by the natives. They are easily caught, and the creole boys are often seen returning with numbers of them strung through a thick blade of grass, and carrying them home in triumph for supper. The following species are also known:—C. cœlatus, C. exaratus, whose habits are allied to the Hassar. One of these species is called by the negroes Banja Man,† from the noise it makes when taken out of the water.

The Doras are an interesting tribe of fishes, and are found in several of the rivers. They are small in size, and are found under roots and banks. The mailed Doras (*Doras costatus*); the parti-coloured Doras (*D. castaneo*); the striped Doras (*D. brunnescens*); the black Doras (*D. niger*); and the Doras hancockii have been described by authors. Several other species exist, but they are difficult to be procured. These fish are hard to kill; they vary in size from five to ten inches, and, like the Hassars, travel by land as well as water. One species, the Doras maculatus, is described by

* Valenciennes.

† The Banja is the name given to a kind of rude drum used by the negroes in their dances.

Richard Schomburgk as attaining to the length of two feet.

A large fish (the Phractocephalus hemilopterus) is common to several of the rivers. It is from three to four feet long, is very voracious, and makes a grunting noise when caught; they bite best by night, and are excellent eating.

Two or more species of Arius are found; the marbled Arius (*A. oncina*) and the Arius obesus. The former, about ten inches long, is distinguished by rings of a blackish colour on the body; it is taken with the hook, and is finely flavoured. It is, I believe, called by the natives Hymiri, and is found in the creeks. The Arius obesus is about nine inches in length, and about seven inches in girth at the thickest parts; found under trees in river Branco.

There are several kinds of Pimelodus found in most of the rivers. The P. maculatus is about twelve inches long, has no scales, and is of a bluish green colour; one species, brown, spotted with black, is called Tiger Fish (*P. arekaima*), is about two feet long, and of excellent flavour. Another species, the Pimelodus insignis, is of a greenish colour, with black spots, and is about eighteen inches in length; it lives some time after being caught, and is taken with the hook.

The stripe-tailed Pimelodus (*P. notatus*) is larger, being about three feet long, of a grey colour, with black spots, the tail being striped black.

Other species of this tribe are found, but need not be enumerated in this place beyond their specific names:

P. sebac	P. foina	P. stilegichii
„ raninus	„ eques	„ macropterus
„ cristatus		

The striped Platystoma (*P. tigrinum*) is a handsome

fish, of a bluish colour striped black and white. It is of large size, and of fine flavour. Other varieties of this fish occur, but are too imperfectly known to attempt to describe. Another species has been mentioned by Richard Schomburgk, it is the P. platyrhynchus, and a third species was found by his brother in the river Branco, which has been termed Platystoma planiceps.

There are several other species of the Siluridæ which require notice; they resemble the others in general appearance and habits, and may be known by the numerous cirri or whiskers about the face. Many of them are termed cat-fish from the latter circumstance, and most of them are good eating. A fish called here the Bum-bum belongs to this tribe.

The following species of Bagrus are already known:

Bagrus mesops	Bagrus clarias vel pimelodus vel arius
„ proops	„ cœlestinus
„ passany	„ emphysetus

They are regular scavengers, and feed on the most incongruous things. Belonging to the same family is another species, the Galeichthys gronovii, which is about one foot and a half in length.

Allied to the above are the next following species of fish:

Auchenipterus maculosus (6 inches)	Auchenipterus punctatus
„ furcatus	

The species called Aspredo are remarkable for their flat heads, broad shoulders, and numerous cirri. Their names are:

Aspredo lævis	Aspredo tibicen

The Loricaria are so called on account of the mailed appearance of the head and body, and by the mouth opening under the snout they are distinguished from

other mailed Siluridæ. The species known are as follows:

Loricaria cataphracta | Loricaria acuta | Loricaria platyura

The Dawalla (*Hypothalmus dawalla*) is found in several of the rivers, and is considered a choice fish. It is about two feet long, destitute of scales, and beautifully coloured green and carmine. It is hard to catch, biting only at live bait near to populated districts; but far up the river Essequebo they are readily taken by the hook.

The Lau Lau (*Silurus*) is one of the largest fresh-water fish met with in the rivers of this country. It is often found from ten to twelve feet in length, and weighing 200 lbs. It is of a greenish black colour above, and whitish below, and is esteemed a great delicacy. When left to nature the eggs are hatched in the abdomen, and when the young are extruded they swim in large shoals over the head of the mother. In case of danger, the mother opens her mouth, and the fry find a safe retreat in the thorax; this is the case also with other species of this family. These fish feed on fruit, vegetables, and smaller fish; they swim with rapidity, and possess considerable strength.

The Gilbagre, or Gillbacker (*Silurus parkerii*), is a large salt-water fish, found plentifully in the estuaries of the rivers of the colony. It is caught from two to five feet in length, and is of a beautiful golden colour. It is purchased very readily by the inhabitants, and when stewed is excellent eating, and has the appearance and taste of veal. A valuable kind of glue, like isinglass, is obtained from the dried natatory bladder, and is much used in the colony. It is also in considerable demand for exportation. It is a voracious fish; one

that was caught and opened had the arm of a child in its stomach.

Of the fourth family (*Salmonides*) of the abdominal Malacopterygians there are several interesting species.

The Pacus (*Myletes pacu*) are well known to travellers in this country, for they afford infinite sport to the tourist, and furnish a fine repast for his table. These fish vary in size from $1\frac{1}{2}$ to 2 feet in length, and sometimes weigh upwards of 8 lbs. The colour is a brownish red, with black spots. They are sometimes shot with arrows in great numbers, the natives contriving to enclose a number of the fish in a particular part of the stream, when a regular battue commences, which often ends in the death and capture of hundreds of the Pacus, many of which are salted and sent to town for sale. Besides the common Pacu the following varieties occur.

M. rubripennis	M. asterias	M. schomburgkii
„ hypsauchen	„ setiger	„ latus

The Cartabac (*Tetragonopterus latus*) is a broad, clumsy-looking fish, with a small head. It is about eighteen inches long, very voracious, and is found in several of the rivers. It has a fine flavour, and is captured with the hook or arrow. A species allied to this has been named after Schomburgk (*Tetragonopterus schomburgkii*), and is found in the tributaries of the Essequebo. It is of an oval shape, and of a greyish blue above and pale green below, with spots of black.

The following species allied to the Cartabac are likewise found:

T. argenteus, 6 inches in length	T. melanurus, 6 inches in length
T. maculatus, 4 „ „	T. tæniatus, 2 „ „

The ocellated Xiphostoma (*Xiphostoma ocellatum*) is a long narrow fish, about two feet long, of a neutral

tint colour, fins and tails variegated red; a round spot, black and yellow, is seen, on the latter. Its flesh is yellow, but good; it is found in the Essequebo and other rivers. It is called Pirapoco by the coloured people, and Pirapu by the Arrawaks.

The small scaled Hydrocyon (*Hydrocyon microlepis*) and another species (*Hydrocyon armatus*) are found in these rivers. The colour of both is bluish green and white, with tints of lake about the tail and fins. They have both a formidable array of teeth. They are voracious, and are captured either with the hook or arrow, being considered good eating. Two other species have been described by travellers, viz.: H. scomberoides, two to three feet long, and found in most rivers. The banded Schizodon (*Schizodon fasciatus*) has been also described, and is found in the river Branco. It is of a greyish colour, with black bands, and attains the length of 1½ feet. It is much prized for the table of the traveller.

There are several species of fish comprised in the genus Chalceus, namely: the C. rotundatus, C. angulatus, C. tæniatus, C. labrosus, C. nigro tæniatus, C. latus, C. fasciatus, which approach to herrings in character. They are small in size, but vary in colour, but are in general prettily marked, and are much esteemed for their flavour. Somewhat similar to these are the following fishes:

Brycon falcatus, 6 to 8 inches long, found in most streams
„ pesu, 6 inches long, common to the Essequebo
„ schomburgkii, 6 inches in length, common to the Essequebo

There are some very interesting species of the genus Serra salmo met with in these rivers, among which is the famous Pirai or Huma (*Serra salmo niger*), called also the black saw-bellied salmon. It is about sixteen inches long, but has very strong and peculiar teeth, which are powerful enough to bite off a toe or finger

of persons bathing, as has, unfortunately, more than once happened. These fish are extremely voracious, and attack all who invade the waters where they prevail. They destroy other fish much larger than themselves; and to effect this, commence operations by biting off their tails; it is, therefore, equally dreaded and shunned by men and fish. The pirai is of a dark colour, inclining to blue. It is caught with the hook, and is eaten by the Indians. It utters a grunting noise when captured, and lives for several hours out of the water. These fish are not found near the coasts or embouchures of the rivers, but prefer the upper parts of the streams, where they congregate about rocks and trees.

Other species of the salmon tribe have been described by authors: S. punctatus, S. stagnatilis, S. piranha, S. emarginatus, S. undulatus, S. unimaculatus, S. argentinus, all of which are more or less small in size, and are eaten by the natives.

The following varieties are allied to these, and have been commonly met with by travellers:

Anodus cyprinoides, 7 to 8 inches long, Demerara and Essequebo
„ alburnus, 10 inches long
„ ciliatus, 6 to 8 inches long
Serrasalmo vel pygocentrus piraya, 10 to 12 inches in length
„ vel „ nigricans, 12 inches in length
„ vel pygopristis denticulatus, 4 to 6 inches in length
„ vel „ fumarius, 4 to 6 inches in length
„ rhombeus, 12 to 14 inches in length
„ aurens, 6 to 8 inches in length
„ vel catoprion mento, 3 to 4 inches in length

These small fish are all more or less eaten by the natives, and are found in plenty in the rivers, creeks, and marshy lands of the interior.

Allied to the above are the following species:

Chilodus punctatus, 4 inches long, found in Savannah waters
Leporinus fasciatus, 10 inches long, found at Pirara
„ nigrotæniatus, 6 inches long, found at Pomeroom
„ frederici, 12 inches long, called Daro by the natives

These fish are all considered good eating.

The herring family (*Clupeæ*) is the fifth of the abdominal Malacopterygians, and include several specimens, which have, however, been considered by ichthyologists to belong to another family.

The largest fresh-water fish met with in the rivers of this country is the Sudis gigas, which is found in the tributaries of the Essequebo, where it is captured with harpoons, or a strong hook and line. They measure from eight to fourteen feet in length, and weigh from 200 to 300 lbs., and are excellent food. The colour of the head and dorsal part is rich brown, whilst the lower part of the fish, with the tail and fins, are lake-coloured. It is called Arapaima and Pirarucu by the Indians, and is hunted by them in the shallow "kira-haghs," or inlets of the rivers, where the capture affords excellent sport to the traveller.

The Arowana (*Osteoglossum arowana*) is a beautiful fish about two feet in length, which belongs to another genus of the same family, and is found in the Rupununi, and sometimes in the Essequebo. It is of a light green colour, and the scales are edged with red, blue, and purple. This fish is chiefly found in muddy water, and is captured by the Indians with bow and arrow. It is a common article of food with the natives. It is said to spring out of the water after bats and other prey. Allied to the above fishes are the following species:

Megalops atlanticus, called here Cuffum, and caught in trenches—a sea fish about two feet long; Elops saurus, found on the coasts, one foot in length; Engraulis thrissoides, six inches in length, found in the Cuyuni; the Krumi is probably another species, it is from ten to twelve inches long, and of a bluish-green

colour. It rises to catch flies, or seeds falling from trees.

The Haimura (*Erythrinus macrodon*) is a voracious, ugly-looking fish, found near the falls or rapids of several of our rivers, and attains the size of three or four feet. It is easily taken with the hook, but is often captured by a species of trap made of the branches of trees, and is so plentiful as to afford a constant supply of food for the Indians, who consider it excellent eating. The mouth is armed with strong teeth, which have been known to inflict severe wounds.

The other species of Erythrinus found here are as follows:

E. unitænatus, 10 inches long, called huri by the Arrawaks
„ salous, 10 to 14 inches in length, found in stagnant waters
„ braziliensis, 12 to 14 inches long; good to eat

Belonging to the family of Clupeæ is another tribe of fishes, found in the lakes and streams of the colony; one species, the Lepisosteus, attains a moderate size, and is considered good to eat.

A small fish, Odontognathus, of this family, is found in Cayenne, and in this neighbourhood. It is called by the French Odontognathe aiguilloné, and is somewhat like a sardine (*Clupeæ sardina*) in form and appearance, but is more compressed.

There are not many varieties met with of fishes belonging to the third order, Subbrachian malacopterygians. There are none belonging to the cod or ling tribe; but the flat fishes, which constitute another family, are represented here by a few varieties.

The flounders (*Pleuronectes*) do not attain a large size here; I have generally seen them from six to twelve inches in length. They are caught in the shallow muddy waters off the coast, and are much esteemed for their flavour, but unless large are trou-

blesome to eat, in consequence of their numerous small bones. They keep alive for a long time after being caught, and are commonly brought to the door for sale by the fisherwomen. The turbot and sole are unknown to this country.

Of the eel tribe, fourth order Apoda malacopterygians, there are several varieties found, but they are rarely or never eaten by the better classes. The fishermen here class them into two kinds, the salt-water and the fresh-water species. The former are frequently caught by the fishermen off the coasts and rivers, but are never brought to the shore, not being considered worth eating; they are of a light colour, and from two to three feet in length.

The fresh-water eels are of various kinds; some of the largest range from three to four feet in length, and are found in canals, trenches, and stagnant waters about plantations. This species is termed Gymnothorax ocellatus. A still larger species is met with about the river Demerara and its creeks, where it is often found among the roots of the caladium arborescens. It attains a length of four or five feet, and is occasionally eaten by the negroes. It is known as the Gymnonotus vel ramphichthys vel carapus rostratus. Another species, Sternarchus oxyrhyrachus, is about eighteen inches long, and is found in the river Essequebo, where it is eaten by the coloured people. Another species, Synbranchus marmoralus, about two feet long, is found about plantations. Two other species are found; one, the Sternopygus vel sternarchus virescens, is met with about the lake Amucu; it is from eighteen to twenty inches in length; the other species is the Sternopygus vel sternarchus lineatus, which is from eight to ten inches in length, and is found in similar places to the last.

The electric eel (*Gymnotus electricus*), or bareback, is found in fresh-water streams, especially the Essequebo, where it is frequently caught and brought to town. It is of a brownish black colour, and is generally seen about three or four feet long, but is occasionally met with much larger. The shock given is sometimes very powerful, but at other times it may be touched without communicating its singular properties. It is eaten by the natives with impunity, but by the better classes is considered too "shocking" a repast for the table. The organ or seat of the electrical property of this eel is, apparently, the under side of the tail, which is divided into compartments, just like the arrangement seen in a galvanic battery. The cells or divisions are filled with a gelatinous mass, which is, apparently, well supplied with nerves. The electrical power is evidently dependent on the will of the animal, which at times is exercised so powerfully as to destroy fishes and small animals; but it is dissipated by frequent use, and to be able to renew it the gymnotus requires rest and nourishment. It has been found difficult to transport these eels to Europe, as the discomforts of a sea voyage prove frequently fatal, and to secure their existence great care is required to prevent them from receiving blows and other injuries consequent on the motion of the vessel in rough weather.

Of the fifth order of fishes, Lophobranchi, there are but few species here. A kind of salt-water eel, Syngnanthus pelagicus, about ten inches long, is occasionally found off the waters of the coast.

Of the sixth order of fishes, Plectognathi, there are a few varieties found. One species, the Tetrodon vel chelichthys punctatus, is about a foot in length, and is met with on sand banks and mud flats off the coast, and about the rivers Waini and Barima. Another

species, the Tetrodon vel chelichthys psittacus, about six inches long, is also found in similar situations. A smaller variety, Chelichthys asellus, about four inches long, is found in the fresh streams of the Barima. A small fish, about two or three inches long, is occasionally seen about the stellings; it is called here swell belly, Tetrodon phizsa. It is of a yellow colour, with black bars across the body; it is capable of distending its abdomen to an enormous size, which if struck explodes with a loud noise.

The cartilaginous fishes (*Chondropterygians*) constitute the second series of Cuvier's division, and comprise many interesting but dangerous fish, such as the shark, sting ray, &c.

There are two or three varieties of shark found here; a very large species, Squalus vel carcharias prionodon, is common to the waters of the coasts and the mouths of the larger rivers. Numbers of them may be seen daily swimming about the slaughter-house which is built close to the river, and as animals are killed, the offal is cast into the muddy waters, where it is greedily seized upon by the sharks. I have repeatedly seen the dead carcases of animals floating along the river and surrounded by sharks, who in the rapacity with which they attacked them, frequently drew them beneath the water. It is feared that they often help to destroy sailors and others who accidentally happen to fall into the river. These sharks are frequently captured by the negroes, who destroy them for the sake of the skin and spinal column, as well as the jaw-bone, which are purchased by strangers. Their size varies from six to ten feet in length, but they are of enormous bulk. The colour is of dull brownish black on the back and sides, gradually approaching to a dirty white on the belly.

Another species, the Carcharias vel squalus henlei, about four feet to six feet long, is also commonly met with in the river Demerara, about the slaughter-house and stellings.

A species of hammer-headed shark is occasionally found, Zygæna malleus vel vulgaris. One dried specimen which I met with was only about three feet in length, but I have seen others caught which measured more.

The fishermen of the colony call the varieties found here the shovel-nose shark, the ground shark, and the queriman shark.

The saw-fish (*Pristis*) are found here; they have been captured near the mud flats, where they apparently delight in groping about for food. The only species which I have seen is the common one, Pristis antiquorum vel squalus pristis; but I have heard of several varieties as to size. The largest one taken was about twenty-six feet in length, including its projecting and serrated snout. This formidable bony process or saw, as it is called, presents a most singular appearance. It often measures from six to ten feet in length; it is broadest at the base, gradually tapering towards a truncated extremity. Its broadest part is about the width of a man's hand, and from each side strong bony and pointed spines branch off at right angles at a distance from each other of a few inches; very often one or more of these spinous processes is found broken off, indicative of the rough work to which this fish-saw is evidently applied.

There are several varieties of the ray fishes found here; one species of sting ray, Trygon garapa, has a spine about ten inches in length, and is found in the rivers Takutu and Branco; it occasionally inflicts severe wounds on the Indians.

Another smaller species, Trygon strogylopterus, is found in similar places to the other, and is about eight inches long.

A third species, Tæniura motoro, is about six inches in length.

A fourth species, Trygon histrix, is called by the Warraus, Siparri, and is found in the Rupununi and other streams. It is frequently described by authors as the Raja jamaicensis, or sting ray. A large species of the ray kind was caught by some men who were fishing for gilbagre in Berbice in 1850. It measured nine feet two inches in breadth, four feet four inches in length, and two feet three inches at the air valves; the body was twelve inches deep. It probably was the Cephaloptera manatiæ of Cuvier.

REPTILES.

In the third class of the first great division of the animal kingdom reptiles are found; and of these four orders are usually described:

1. Chelonia, or the Tortoise family.
2. Sauria, or the Crocodile and Lizard tribe.
3. Ophidia, or Snakes.
4. Batrachia, or Frogs.

The first order of reptiles which requires notice here is that of the Chelonia, or tortoise tribe. Tortoises and turtles are commonly met with, but are chiefly to be seen in the wooded heights, banks of streams, and sandy districts. They vary exceedingly in size. The larger kind of turtle weigh occasionally from 50 to 100 lbs.; while some of another species are so small as to be made pets of, and are kept in small basins in the drawing-rooms.

The large green turtle, Chelonia midas, are not unfrequently caught by fishermen on the sand banks about the coast, both in Demerara and Essequebo; in the latter district an allied species is frequently found. The females seek the land to deposit their eggs in the sand; they excavate large holes, and lay a certain number in one place at a time, and return again next day to repeat the operation. In this way, several hundred eggs are deposited in sand nests close

to the water, in fact, just beyond the influence of the tide. When hatched, the careful mother, who has visited them, leads the young turtles down to the water, where they soon make acquaintance with their future element. The eggs have a soft shell, are round, and are very good to eat.

Not long ago, two of these turtles were seen promenading on the sandy beach close to the fort; the smaller and most active one escaped, but "fatty" was taken prisoner, and soon expiated his or her rashness in the cook's hands.

There are two kinds of land turtle known to the colonist:

1. The Testudo depressa, so named, I presume, from the carapace, or upper buckler, being somewhat flatter than is usual to the land tortoise. Their usual size is about one foot in length; they are easily tamed, and can remain a long time without eating. I had one which fed on bread, plantains, worms, and other food, but for a long time it refused food of any kind.

2. A second species is the Testudo tabulata, which frequents woods and heights, and the flesh of which is eaten by the natives.

Another kind of land tortoise has been mentioned by some as measuring three feet in length, but I have never seen a specimen: it is evidently allied to the Testudo indica, but has never, I believe, been described by any author. It is found up the rivers in sandy and other dry places, but is by no means common.

Of the fresh-water tortoises there are several species known to travellers. They frequent the marshy grounds, the streamlets, and the rivers of the country.

The following species are met with:

1. The Emys tricarinata — called by the natives Casseepan.

2. Emys —— ? called by the natives Tarakayba.

3. Emys punctularia—found on the plantations of the coasts, and the flesh of which is not eaten.

4. Emys tracaya—found in the rivers Essequebo and Rupununi.

5. Emys concinna vel geometrica—a small tortoise with yellow streaks.

6. Podocnemis expansa—a large species found in the river Branco.

7. Podocnemis unifilis—about one foot in length; it is found in the rivers Rupununi and Takutu.

Some of the turtle ordinarily found in fresh-water streams have occasionally been caught several miles to seaward; but why they got there was probably as great a wonder to themselves as to their captors.

The sea-turtle are so rarely seen that it is hardly necessary to speak of them as belonging to the Chelonia of this country. As before observed, a stranger will occasionally show himself in our muddy waters, but the inhabitants are chiefly indebted to importation for the luxury of green turtle so much prized by the *bon vivant*.

Of the large-mouthed tortoises, or Chelys, there is one species met with in the Essequebo and Takutu rivers. It is an ugly-looking creature, and is recognised by its prolonged proboscis or snout. It grows from one to two feet in length, and its carapace is studded with pyramidal elevations, while the body is edged all round with a membranous fringe of a pinkish colour. It is known to naturalists as the Testudo fimbria, and has been noticed by others under the name of La Matamata. I once saw a young one about five inches in length, exclusive of the neck and head. It was of a red colour, and was very active.

Of the soft-shelled tortoises the most peculiar is the

Trionyx vel testudo ferox, found up the rivers. It lurks under the various water plants, and preys on small birds, reptiles, &c., but is eaten by some of the larger species, such as the alligators. Its flesh is considered good food. These tortoises have no scales, the shell and sternum being simply enveloped by a soft skin. They live in fresh water, and swim very well.

Other species of fresh-water tortoises have been described by travellers, namely:

Platemys planiceps, in the neighbourhood of Roraima; Platemys hilarii, found in similar places to the other.

The second order of reptiles comprises the Saurians, which are largely represented in British Guiana, if not in variety, at least in point of numbers. The alligators are the largest kind found among them, and are frequently seen in the rivers and trenches, proving very formidable to ducks and poultry. In dry places, on the contrary, the nimble lizards may be seen darting about in all directions, their glittering colours reflected in the magnificent sunlight of the tropics. They are a harmless, sportive tribe, and prey on insects among the dried leaves and boughs of the hedges and woods; they are often seen carrying their eggs in their mouths. A larger kind, the Salempenta, or El Mateo, about three feet in length, is also frequently seen in the grass and among the decayed brushwood. It is very destructive to the young of the poultry-yard, feeding on eggs and chickens when obtainable. Like the lizards, they are singularly agile, and run along the ground incredibly fast, or plunge into the water, if alarmed. They lay their eggs in dry, warm places where the sun has access; the females keep careful watch over them, and protect their young for some months. The tongue of the lizard tribe is very peculiar, being thin and extensible, and terminating in two threads, something like that of the viper. It is not uncommon to

see lizards running along cropped of their tails; perhaps this is the result of accident, as they are attacked by dogs, cats, and other animals.

In the first family in the order of the Saurians the crocodiles are the representatives, but in this colony we have no true crocodiles. This reptile's place is supplied here by the alligator, or Cayman: the former name is a corruption of the Portuguese word lagarto, signifying lizard, which itself is derived from the Latin word lacerta. The term Caïman, or Cayman, is that given to this reptile by the Africans of Guinea. It has also been named the spectacle alligator (*Crocodilus sclerops*), from the fact of a transverse bony ridge which unites in front the salient borders of its orbits. This reptile varies exceedingly in size, and ranges from four to twenty feet in length. The upper part of the tail and body are serrated, like the teeth of a saw, with bony processes. Its colour is brownish on the dorsal surface, with tints of green; its belly is of a dirty white. The size of its head is proportionally large, but its brain is singularly small, being scarcely an inch in length, even in large species. Alligators abound in all parts of the colony, and are even to be seen in the canals and trenches about Georgetown. They are difficult to kill, owing to the hardness of their bony plates, off which shot or bullet will glance without penetration. The small size of their cerebral organ, also, explains why even bullets striking the head do not prove fatal. Marksmen generally aim at the eye when they wish to destroy a caïman. These reptiles have a peculiar musk-like smell, by which their presence in the neighbourhood is often suspected, although the caïman itself is unseen.

The female lays her eggs in dry places, covering them lightly with straw or leaves, where they are hatched by the sun's heat. They prey on small reptiles, fish, birds,

and snakes, and with large species of the latter they have the most deadly fights.

There are several varieties of the alligator tribe met with in Guiana, which differ materially in size, shape, and colour.

The largest species is the Essequebo caïman, or alligator (*Champsa nigra*), which is found in that river. It attains from fourteen to twenty feet in length, and is a very formidable antagonist either for man, fish, or snake. It is of a black colour. It is caught by the natives by means of traps, but is seldom directly attacked by them. There are, I presume, but few naturalists who have not been entertained, if not instructed, by the account given by Mr. Waterton of his encounter with one of this species. This alligator is never seen in the neighbourhood of plantations.

A second species is the Crocodilus vel champsa sclerops, or spectacle caïman, which attains the length of eight feet. It is met with in all parts of the colony, but especially in unfrequented stagnant waters.

A third species is the Crocodilus vel champsa punctulata, which is commonly found about plantations and marshes, and grows from three to four feet in length. It is frequently shot or captured by the negroes.

A fourth species is the Crocodilus vel champsa vallifrons, which is met in most of the rivers, and is about the size of the last, which it much resembles in general appearance and in its habits.

A fifth species has been described as the Champsa palpebrosa; it is common to most streams, and about three feet long.

The third family of the Saurians comprise the Iguanas, or Guanas, so well known to travellers. The habits and general appearance of most of these are similar. They are found in woods, in grass, on trees, among old build-

ings, and even on the muddy beaches, where the common or edible guana is supposed to fish. They lay their eggs in dry sunny places, where they may be exposed to the action of the sun's rays; they are very shy, and have all the active habits and propensities of the lizards.

The most important, and at the same time the most common, is the Iguana tuberculata, or common guana. It is of a greenish colour, is about three or four feet long, but sometimes larger, and has a very slender whip-like tail. It is found on trees, in woods and hedges, and also on cultivated lands. It is occasionally met with preying on fish, and can swim tolerably well. In spite of its appearance, which to the uninitiated is revolting, it is a very harmless animal, and is sought for by collectors for the purposes of the table, its flesh being considered a great delicacy, and having the flavour of chicken. It feeds on fruit, grain, and leaves, also fish. Its eggs are about the size of those of a pigeon, agreeable to the taste, and almost without white. It has a sort of membranous pouch or dewlap under its throat.

Another species is the Ophryessa superciliosa, so called from a kind of membranous and raised eyebrow. Its size is from six to eight inches long; it is found on the banks of rivers, and on branches of trees overhanging water.

A third species, the Lacerta basiliscus, is of a bluish colour, with two white bands stretching towards the shoulder, and with a hood-like appendage on its head. It is from two to three feet long, and feeds on grain and leaves.

A fourth species is a kind of marbled lizard, found in the Savannahs, and on rocks and trees, about eight inches in length. It is known as the Ecphimotus torquatus vel agama tuberculata.

The second family of reptiles comprises the lizards,

which are more or less familiar to all persons. There are great varieties of them in Guiana, and merit notice in this place. They vary in size from half a foot to six feet in length, but few except the smaller species are ever seen by colonists. The largest kind is met with about the coasts, where it feeds on insects, reptiles, and eggs. It lays its eggs on the sandy banks, where it excavates holes for that purpose. The flesh and eggs are edible. It is about six feet in length, and is of a yellowish and black colour. It is known as the Great Safeguard of America (*Lacerta vel salvator teguixin*).

A second species is the Salvator nigropunctatus, which grows from one to one and a half foot long, and is found in various parts of the colony.

A third species is the Ameiva vulgaris, about fourteen inches long, which is frequently seen about plantations, gardens, and other sunny places.

Two other smaller species are also seen:

1st. The Centropyx calcaratus, about six to eight inches in length.

2nd. The Centropyx striatus, from four to six inches long. Both these lizards are chiefly found in Savannahs, where they may be seen darting about the long grass.

Another species, the Crocodilurus lacertinus, has been described. It attains the length of eight to ten inches, but is not common to the cultivated districts.

Among the marbled lizards there is one species, the Polychrus marmoratus, which changes colour like a chameleon. Its size is from six to eight inches long. It is found on trees. It is of a reddish grey colour, marbled with brownish red bands. It is frequently seen about the guava bushes, and from its changing colour is termed chameleon by the colonists.

There are two or more species of Anolis found here: the Anolis gracilis and the Anolis planiceps. They are

found on trees, and are from six to eight inches in length. They also have dewlaps, which they inflate when angry, and the colour of which changes; they are recognised by a kind of oval membrane spread on some part of the toes, which enables them to cling to various surfaces. They are found in various parts of the colony, and feed on seeds, fruit, and berries.

Of the fourth family of Saurians, or the Geckos, there are only two species found here: the Platydactylus rapicauda, four to six inches long; and the Hemidactylus mabouia, two to three inches long. They are nocturnal in their habits, and are found on rocks, and occasionally in old houses.

Some of the species in the French islands are called Mabouia; the term "Gecko" has been applied to them from their peculiar cry.

There are no true chameleons in this country that I am aware of.

Two other species of Saurians have been occasionally described: Eumeces spixii, six to eight inches long, found in woods and other places; and Amphisbæna fuliginosa, which is about ten or twelve inches long, and looks more like a snake. The latter is found all over the country, and is oviparous. It feeds on insects, especially ants.

The third order of reptiles comprise the large and interesting family of snakes (*Ophidia*), of which there are not wanting specimens in this colony. Before the march of civilisation the whole country must have swarmed with them; but since cultivation has progressed, the dangerous denizens of the country have been compelled to withdraw into the interior, or hide themselves in the recesses of the forests, or in the deep waters, where they are little likely to encounter their deadly enemy, man. Even now, in the country districts,

and occasionally in the towns, some varieties of the snake tribe are met with; but, as a general rule, the more deadly species are to be found at the greatest distance from the inhabited districts. Now and then individuals exposed by travelling are bitten by them, but I hardly can call to remembrance an instance of any fatal result from the bite of snake since I have been to this colony.

An immense number of these snakes have been sent to England and elsewhere by collectors, but I am not aware that as yet any correct account has been given either as to their numbers or generic characters. Some change their skins so often, and present at different times such varied appearances, that separate names have actually been applied to the same individuals.

Many instances have occurred of wilful deception practised on the credulous or unscientific snake amateurs; as, for instance, attaching a portion of a cock's-comb to the neck or tail of a stuffed snake, and forwarding the specimen as an anomalous curiosity to the curious in these matters in Europe.

There are at least fifty or sixty different species of snakes to be met with in British Guiana.

Some only of the more remarkable require notice, although, as far as possible, I shall enumerate all the species hitherto met with by various travellers.

The snakes of this country are true serpents, and may be classed under two great divisions.

1st. The non-venomous.

2nd. The venomous.

The non-venomous serpents are the most numerous, and are exceedingly formidable in their size and appearance. They include the large family of boas and colubers.

There are several varieties of the boa here.

The largest is the boa constrictor, which is sometimes met with from twenty to thirty feet in length. It is chiefly found in woods and forests, where it is known as the bushmaster. It would be useless to attempt any description of a reptile which is so notorious; as is well known, it first crushes its prey and then devours it. It feeds here on monkeys, wild deer, and other animals met with in the woods. Its bite, though severe, is not fatal, but entails a long confinement and much suffering. It is occasionally found coiled up among the branches of large forest trees.

Another species of boa met with is the boa scytale. It is of a brown colour, with dark spots along the back, and ocellated patches on the flanks. It is amphibious, and is commonly called here the Camoudi; but this name is so indiscriminately applied by the inhabitants to large snakes, that it is difficult to know what particular snake is meant by this term; thus it is a very common opinion of this country's naturalists that there are two kinds of Camoudi, the water and the land Camoudi. The latter is the shorter and thicker of the two; its head is small.

I have known an instance of the land Camoudi having become more or less tamed. It was received by a gentleman when very young, and about nine inches in length, and has continued with him about six or seven years. Its present length is seven feet, and it is kept in a box in the bedroom. Sometimes it is allowed to crawl about the room for days, although several young children are moving in and out. It has usually a disposition, like all snakes, to hide itself, and with this object gets under the bedding, pillows, &c. It is fed very irregularly, generally about once a month, and is supplied with a variety of food, such as rats, fowls, and other small animals. It increases perceptibly in size after

feeding, but when long unfed it appears to shrivel, and becomes much smaller. After full meals it discharges a kind of solid excrement, enveloped in the skin or covering of the animals eaten. At other times small stony-looking substances alone are evacuated. The large and old snakes of this species are very difficult to keep alive. The natives have an idea that, except captured at a particular stage of the moon, they will not live; and my informant assured me that he had at one time a large and old Camoudi, which he kept by him for the space of ten months, during the whole of which time the obstinate reptile refused to eat anything, although repeatedly tempted by dainty food, such as a live rat, acouri, &c. At the end of that time it died, apparently of sheer starvation.

The tail of the land Camoudi is slender, tapering, and prettily marked purple, brown, and white. The colour of the body is reddish-brown, with large oval patches of a dirty-white colour on its sides, with irregular streaks of the same colour in various directions. It has just the appearance of an oil-cloth elaborately ornamented; such, at least, was the appearance of a boa which I examined lately. The larger kind is generally of a darker colour. Both species are capable of biting, and that severely; but it is by encircling their victims in their deadly folds and crushing them to death that the greatest danger lies. One was seen a short time since, by a gentleman living on the west coast, in a terrible conflict with a large alligator. The snake had encircled the angry reptile in spite of its armour, and the fight was long and doubtful. He at length terminated it by shooting both the snake and alligator—a proceeding not very satisfactory to either the one or the other. The snake was about fifteen feet long, and measured twenty-three inches in its greatest circumference. These snakes change their skin

about every two months, or after they have become gorged of a full meal. They feed on small animals and other reptiles. They are very prolific; sometimes nearly a hundred young ones are produced by the female.*

A third species is the Boa vel epicrates cenchris, of a fawn colour, with brown rings along the back, and similarly coloured spots on the flanks. It is of similar size and habits to the others, but in what particular respects it differs I cannot positively state.

A smaller species is the Xiphosoma hortulanum, from four to six feet long.

One of the snakes most dreaded here is the brown viper, or Labarri Bothrops atrox, from four to six feet in length, and the bite of which proves rapidly fatal. It is of a light brown colour, variegated with chesnut-coloured streaks on the back and sides. The mouth is large, and armed with two sharp fangs in the upper jaw. It is met with in all parts of the country, and is much dreaded even by the native Indians, whose sharp eyes will often detect this serpent when unnoticed by others.

Another species of this viper has been described by some as formerly known as the yellow-tailed Labarri. It is smaller than the other, and used to be found in the cane pieces, but seldom seen at the present day. Dr. Bancroft, in his account of Guiana, mentions an instance where the bite proved fatal in five minutes.

Another dangerous kind of snake is the parrot-snake, Bothrops bilineatus. It is found among woods and grass, and its greenish colour renders it difficult of detection. They attain the size of two to three feet. I remember, upon one occasion, that a snake, perfectly green and several feet in length, was found in the boiling house of Plantation Versailles.

* Richard Schomburgk.

The Guana snake (*Scytale* ——?) is another venomous species; it is so called from its having a pouch under the throat. It is of a yellow colour, with black lozenge-shaped spots on the body. I once saw one swimming in the wake of a schooner, near the island of Leguan; it was about six feet in length.

Of the family Cœciloidei, or naked serpents, only one species, Cœcilia annulata, is recorded. The eyes are so small as scarcely to be seen. It is found in marshes, but the natives assert that it is also found in ant-hills. It is by some naturalists classed with the Batrachian reptiles.

There are several species of venomous snakes found in Guiana.

The most important of these is, perhaps, the rattle-snake, Crotalus durissimus vel horridus. It is from five to seven feet in length, and is occasionally met with in the interior. Within the tail, as is generally known, are a varying number of thin hollow rings, sometimes as many as ten or eleven, which are enclosed in horny cases, and occasion the rattling noise giving rise to the name. The colour is yellowish brown, with lozenge-shaped spots edged with black about the back and neck; the belly is of a lighter colour. The bite of this snake has been found here to prove quickly fatal, but instances of its occurrence are fortunately rare.

Another very formidable species is the Kunukusi or Courracouchi of the Indians (*Crotalus mutus*), which is of a yellow colour, with black or brown spots on the back. It is from eight to twelve feet long, and is found in the forests, where it is termed bushmaster by the colonists. It is very much dreaded by travellers, and those who have to traverse woods, for it has no rattle by which to warn of its approach.

A third species of venomous snake is a kind of viper (*Elaps vel coluber lemniscatus*). It is small in size,

but very deadly. It is of a pale colour, with black rings.

A fourth species is the Elaps surinamensis, also a species of viper, of small size, but very deadly in its bite.

Belonging to the non-venomous snakes are those long, slender-bodied serpents, which are here known as whip snakes, their appearance being like the thong of a whip. They are arboreal in their habits, living among branches of trees, where they glide about rapidly and securely, occasionally lashing themselves out to secure their prey, insects chiefly. They range in length from three to four feet, and are harmless and timid.

The following varieties are known: *

Dendrophis liocercus	Dipsas pavonina, 2 to 3 feet long
Dryophis catesbyi, 3 to 4 feet long	„ leucocephala, 3 to 4 do.
Dipsas mikanii „	„ punctatissima, 2 to 3 do.
„ weigelii „	

Among water-snakes and non-venomous are several harmless plain-coloured species, which frequently are found in the trenches and streams about the towns, but I am unacquainted with their names. I have more than once, however, seen some very long serpents, at least several feet in length, both plunge into and emerge from the deep canals bordering on plantain walks in retired places.

A species of water-snake (*Homalopsis angulata*—Richard Schomburgk) has been met with by that writer in Savannah streams. It had a length from three to four feet.

Of the other innocuous or non-venomous snakes the

* Richard Schomburgk.

following merit notice, and may be classed into terrestrial, arboreals, and water:

1st. The coral snakes are so called from their striped appearance, the colours being generally red, black, and white. They are met with in the neighbourhood of plantations and the towns, and vary in size as well as colour. Generally they are found from four to eight feet in length: they are pretty-looking reptiles, and are very abundant. The following species have been enumerated by authors:*

Coluber corais	Coluber plumbeus
„ pantherinus	„ pœcilostoma
„ variabilis	„ macrolepidotus

Allied with these in character and appearance, and even classified under the generic term of Colubers by Cuvier, are the following species:—

Herpetodryas carinatus | Herpetodryas lineatus | Herpetodryas viridissimus

The other terrestrial non-venomous snakes are:

Coronella merremii, 1 to 2 feet long	Heterodon guianensis, 2 to 3 feet long
„ reginæ, 2 to 3 do.	Lycodon clelia, 3 to 4 do.
„ cobella	Calamania melanocephala.
Xenodon severus „	

They are by no means common, and are chiefly found in the interior of the country, far away from the cultivated districts.

The fourth order of reptiles is composed of the frog tribes, Batrachia, and is largely represented here. They may both be seen and heard in large numbers all over the colony, where they are known to dwell in marshes, canals, fields, and trees; but it is chiefly in the wet season that the frog tribes are remarkable for their numbers and noise. The colonists have long regarded them as "rain indicators," and when of an evening the loud guttural

* Schomburgk.

sound of the frog is heard, the fall of rain in the night is almost certain. The different species have varieties of notes. Thus there are the croaking, the whistling, and the piping frogs.

The large number of frogs here is not without some use. They feed largely on insects and the young of small animals and reptiles, especially the rat tribes; so much so, indeed, that some species of frogs were actually carried from this country to Barbadoes, much to the annoyance of the islanders; but when the object of this novel species of immigration became known, and the truth of it proved—namely, the use they were in clearing the cane pieces of rats, they became general favourites, and their propagation encouraged. It is well known to planters that in fields where there are many frogs the number of rats is small, and *vice versâ*.

The following varieties of frogs are to be met with:

The paradox frog (*Rana vel pseudis paradoxa*), called also Jakie, is one of the most remarkable, in consequence of the size to which it attains in the tadpole state; indeed, before its metamorphosis into the condition of an adult frog, it is actually larger in this state than in its maturer or more perfect form, which has given rise to the belief that the frog was changing into a fish or huge tadpole, whereas in reality the reverse was the case. This curious reptile is of a greenish colour, spotted with brown, with irregular lines of a similar colour on its thighs and legs. It is found in trenches, woods, and graveyards.

Another allied species is Cystignathus Schomburgkii, which is found in marshes and woods. It is of a dark brown colour above, but light brown below.

The tree frogs (*Hyla*) are numerous, and offer several varieties. They are in general of small size, and of

pretty colours. They are easily recognised by the sponge-like pellets on the extremities of the toes, by means of which they are enabled to adhere to walls, trees, and houses. It is a common thing to find them inside the water goglets, and when disturbed, they take prodigious leaps, and fasten themselves against the ceiling, panes of glass, and mirrors, where they will remain a long time puffing their throats. Most of them have a kind of pouch under the throat, which is capable of considerable dilatation, especially when crying. They feed on insects, and spawn in water. Some species are common to the coasts; others are found more inland, on leaves.

The following species are met with here:

Hyla bicolor	Hyla venulosa
„ palmata	„ calcarata
„ leprieurii	

Of the larger kinds of frogs or toads, Bufones, there are also several varieties. The most common is a species of a yellowish-brown colour, Bufo marina vel agua, which is always to be seen hopping about the streets and houses in wet weather. They take to the water in spawning time.

Two other allied species are mentioned by Richard Schomburgk, Bufo leschenaultii, found among leaves in humid places in the neighbourhood of the river Pomeroon; and Bufo margaritifer, also found in damp wooded places in the interior.

Also Dendrobates tinctorius, a species of frog found in the stony banks of streams about the Roraima mountains.

Of the family of Pipa there is a large kind common to the town and country, and often seen in dark damp places about the houses. It is the Pipa americana It

is easily known by the tuberculated appearance of the skin of the back. These are, in fact, a description of cells, in which the eggs of the female are placed to be hatched.

Another description of frog is alluded to by Richard Schomburgk, but not named, who says that he met with it up the river Essequebo, where it lives on the trees on the banks of the river. It has large yellow legs, body brown, spotted with black. It makes a noise like the paddle of a canoe, and is hence termed by the natives the paddler.

SECOND CLASS OF THE FIRST GREAT DIVISION OF THE ANIMAL KINGDOM.

BIRDS—(*Aves*)—*Oviparous Vertebrata.*

GENERAL REMARKS; CLASSIFICATION OF BIRDS.

ORDER I.—ACCIPITRES, OR BIRDS OF PREY, INCLUDING VULTURES: THEIR VARIETIES AND HABITS—THE OWLS, DO. DO.—THE HAWKS AND EAGLES, DO. DO.

ORDER II.—THE PASSERINÆ, OR SPARROW TRIBE: THE SHRIKES, THEIR VARIETIES AND HABITS—THE CHATTERERS, DO. DO.—THE TANAGERS, DO. DO.—THE THRUSHES, DO. DO.—THE FLYCATCHERS, DO. DO.—THE MANAKINS, DO. DO.—THE SWALLOWS, DO. DO.—THE GOATSUCKERS, DO. DO.—THE CASSIQUES, DO. DO.—THE TROUPIALES, DO. DO.—THE HUMMING BIRDS, DO. DO.—THE KINGFISHERS, DO. DO.

ORDER III.—SCANSORIÆ, OR CLIMBERS: THE JACAMARS, THEIR VARIETIES AND HABITS—THE WOODPECKERS, DO. DO.—THE CLIMBERS, DO. DO.—THE BARBOTS, DO. DO.—THE CUCKOOS, DO. DO.—THE PARROTS, DO. DO.—PARROKETS AND MACAWS, DO DO.

ORDER IV.—THE GALLINACEÆ: BIRDS OF THE POULTRY KIND—TURKEYS, THEIR VARIETIES AND HABITS—THE MAAM, DO. DO.—THE PARTRIDGE AND QUAIL, DO DO.—THE PIGEONS AND DOVES, DO. DO.

ORDER V.—THE GRALLATORÆ, OR WADERS: THE PLOVERS, THEIR VARIETIES AND HABITS—THE CRANES, DO. DO.—THE SPOONBILL, DO. DO—THE HERONS, DO. DO.—THE GAULDINS, DO. DO.—THE STORKS, DO. DO.—THE SCARLET IBIS, DO. DO.—THE CURLEWS, DO. DO.—THE SNIPE, DO. DO.—THE SANDPIPERS, DO. DO.—THE RAILS, DO. DO.

ORDER VI.—THE PALMIPEDES, OR WEBFOOTED BIRDS: THE GULLS—THE SEA SWALLOWS—THE FRIGATE BIRDS—THE PELICANS—THE CORMORANTS—THE DIVERS—THE DUCKS.

THE subject of birds now claims attention; and whether we consider the variety and numbers found here, the richness and beauty of their plumage, the surprising and in many cases melodious tones of their voice, and the curious and singular habits of most of them, there is offered a large field of curious inquiry, and one which

presents something new and instructive for every observer.

Large collections of birds are made annually by naturalists, bird-stuffers, and travellers, and the specimens are distributed among museums in Europe and America, or are added to private collections; but, with the exception of a few of the most common species, the inhabitants here generally know very little of the numerous birds found in Guiana.

There are, at least, between four and five hundred specimens already known and named, and no doubt many more are still to be discovered.

It is not pretended in the following observations on the ornithology of this country to give to the reader such an account of the birds peculiar to British Guiana as might be expected from the advanced state of knowledge possessed by the scientific world on this interesting subject. The attempt would be beyond my capabilities. In offering the few remarks which are here to be met with, my object has been to endeavour to present to a general reader such a view of the subject as would prove interesting, and at the same time to accompany the description of the feathered tribe with some degree of method, such as is adopted in more elaborate works on ornithology.

According to the arrangement of Professor Cabanis, who has classified the birds collected by Richard Schomburgk,* the following numbers occur:

1.	Raptatores, or birds of prey	43
2.	Scansores, or climbers	77
3.	Gyratores	6
4.	Clamatores	93
5.	Oscines	83
6.	Strisores	36
7.	Rasores	15
8.	Grallatores, or waders	55
9.	Natatores, or swimmers	16
		424

* Reisen in British Guiana.

But in the following account of the birds I have adhered to the system of Cuvier in arranging them, and the faults which undoubtedly abound must rest rather in my imperfect sketch than on the model from which it is taken.

That distinguished naturalist has divided the class of birds into the six following orders:

1. The accipitres, or birds of prey
2. The passerinæ, or sparrow tribe
3. The scansoriæ, or climbers
4. The gallinaceæ, or birds known as poultry
5. The grallatores, or waders, long naked legs, and partially web-footed
6. The palmipedes, or birds with palmated or webbed feet

These divisions, as well as others adopted by other ornithologists, are formed on the natural structure and habits of birds, into the nature of which it is unnecessary here to enter. The task is sufficiently difficult to furnish anything like a clear description of the numerous classes of birds which abound in this country, and to point out such peculiarities about them as will render them familiar to others.

The labours of Schomburgk, Hancock, Waterton, and others, have already contributed to our amusement and instruction on the subject of ornithology; and possibly there are few persons who have not at times felt the wish to have their curiosity satisfied about some one bird or other, and also experienced the pleasure of admiring their brilliant plumage, or listening to their enchanting voices. From the earliest streak of day to the latest sunbeam, the various families of birds awaken to spend their happy hours, either soaring up to the bright blue sky, skimming over the glistening waters, or revelling in the leafy shade of the forests; and even when the shades of night rest on the earth, the downy goatsuckers and solemn owls dart silently about in pursuit of pleasure or business.

Order I.—Of the Birds of Prey—*Accipitres.*

This class of birds abounds in British Guiana, and the individuals may be easily recognised by their hooked bill, powerful talons, and daring habits. They are met with in all parts of the country; from the common vulture to the stately eagle, they all find victims for their rage and appetite.

The vultures are pretty generally known. These useful, but ugly birds, are called here "Carrion Crows." They are much larger, however, than the common crow of Europe. Their colour is of a dull black; they rove about in quest of putrid food, of which they never lack a supply. Some assert that they occasionally feed on live rats, lizards, &c., but I believe this to be an error. They prefer waiting until the aroma of putrefaction provokes their appetites.

This singular instinct is entrusted for a wise purpose to these humble-looking creatures. Their ravenous appetites have the effect of preventing to a great extent the effluvia of putrid animal matter from vitiating the atmosphere.

Wherever a putrefying carcase begins to offend the senses of most animals, there, with unerring instinct, is sure to be found a troop of vultures.

In warm countries the service they perform is incredible, and for this reason they are never molested by the inhabitants.

I only know of three species of vulture in this colony.

The common carrion crow (*Cathartes vel vultur Jota*) of this country is universally found both on the coasts and in the interior, either soaring on dry sunny days at an immense height in the air, or swooping down in wide gyrations towards the ground. In fine weather, when on the look-out for food, or taking a bird's-eye view of

the earth, it has a quiet, steady, graceful soar, the head of the bird, if examined with a glass, being seen turning from side to side. If its attention is attracted to any inviting object, through the senses of scent and sight (for in its singular instinct in discovering dead and putrid carcases of animals it is evidently assisted by both these senses), it speedily descends, not direct, like the hawk, but in extensive gyrations or circles, and commences its loathsome meal. This movement on its part is not unnoticed by the other carrion crows similarly employed to itself, for no sooner does the fortunate discoverer direct his course to the earth, than the others invite themselves to the repast, and rapidly arrive from all directions.

If the carcase be that of a horse or ox, they perch singly or in small numbers on the body, picking with impatience at the tough hide, if putrefaction has not commenced, or waiting greedily on the neighbouring trees to watch the desired change.

The bodies of the drowned or murdered are occasionally discovered by means of the carrion crows, who are quickly attracted to the spot. In the case of a body imperfectly interred, "this bird will, so soon as putrefaction has commenced, be seen in the neighbourhood perched upon a tree or tombstone, and apparently much puzzled to know where the piece of mortality can be concealed which involves the (to him) delicious fragrancy."

After rain these birds may often be seen perched on lofty trees, with their wings outspread, but drooping, as if they were drying them, which, indeed, appears to be the case.

The carrion crow is a black, square-tailed vulture, with a naked head and neck, and has been confounded with the turkey buzzard. Our bird, however, is gre-

garious—it is the *Cathartes vel vultur Jota* of Cuvier. The female builds her nest on the ground, of coarse grass or twigs, and lays three or four eggs of a greenish hue, studded with brown spots.

A second species (*Vultur aura*), somewhat smaller in size than the Vultur Jota, is closely allied to it. It is readily distinguished by having a yellowish-white head and neck, and appears not to be gregarious. It is not so common as the black-headed carrion crow, and is chiefly found among the creeks of the east coast.

The third species has been named the "King of the Vultures" (*Vultur vel sarcorhampus papa*), from his superior size and splendour. It is called Irubicha by some, and Carrion Crow Governor by the negroes. It is really a splendid bird, about the size of a turkey; the head and neck destitute of feathers, but gaudy-coloured membranes supply their place. The crown is scarlet. The front and back of the neck are of a beautiful orange yellow, and the sides rich scarlet. There are patches of blue and white about the ears and eyes; an orange yellow caruncle rests on the forehead. The colour of the body is whitish, the tail and part of the wings black, the belly white; the bill is orange and black; the eyes red, with white pupils. This bird is ferocious in its habits. I remember an instance where a child of three years of age was knocked down by one of these birds, which was allowed to rove about the yard with a chain and weight attached to its leg. It jumped upon the prostrate body of the terrified child, and was deliberately pecking at the face whilst the little boy was struggling to get away.

Great deference is shown to this majestic bird by the common vultures. It is said, that on a general feast of some recently discovered carcase in a state of putrefaction, no sooner is his presence recognised by the others, who

are enjoying their meal, than they instinctively retire and make way for his majesty, who advances with solemn dignity to the outspread viands, and dips his royal beak into the savoury mess.* After sufficiently regaling himself, he has consideration enough to move away from the spot, and give place to the more vulgar appetites. The royal vultures are to be seen in flocks in the interior, and, when assembled to feed, present a beautiful appearance. I have heard it asserted by others that there is a species of white vulture which is occasionally to be seen. Its size, habits, and haunts are the same as the Vultur Jota, but is of an entire white colour, and seldom more than a single bird is seen; but having never met with it, I can neither vouch for its existence nor its character. I once saw a royal vulture when it was quite young; the plumage then was entirely black, as well as the membranes about the head and neck.

The Owls—*Strigidæ.*

There are about seven species of night owls, from the size of a fowl to that of a sparrow. Some are met with in the city; but up the rivers, in the forests, and in country places they abound to a great extent. They frequent the haunts of bats, and the society of young birds and small animals, on whom they prey. They associate frequently with the goatsuckers, and, at first glance, it is not always easy to distinguish between the one and the other in cases where they approach in size. The same long silky feathers, the same grey sombre livery, characterises the plumage of both birds. Their cry is, however, very dissimilar. No one who has ever heard

* This, perhaps, is generally the case in the wild state; but when one of the king of vultures is tamed, or made a prisoner, this mark of respect is not invariably shown to him by the carrion crows, who equally with himself share the repast, or even scare him away.

it in the silent watching of the night can mistake the screech of the owl. Some of the owls have a most peculiar cry, and persons familiar with them recognise the species by their voice. I once heard in the country, at midnight, the call of an owl called here the "Jumbi, or Ghost-bird," which greatly interested me. It gave a soft prolonged note, followed by a quick whistle or scream. There was dangerous illness in the house at that moment, and the ominous voice of this peculiar bird did not tend to reanimate the desponding spirits of those present. It proved, however, a false prophet, for the patient got well. The larger species of owls have tufts of feathers around their ears, which are very long. They are known as the horned or long-eared owls. The species here are:

Strix cunicularia	Strix perlata
„ passerinoides	„ choliba
„ torquata	„ asio
„ lineata	„ vel bubo virginianus

About forty kinds of true hawks are known in British Guiana. They vary in size from the blackbird to the eagle. They prey on fish, snakes, birds, and the young of some animals, and abound throughout the country. Many species are very common, and are well known, such as the chicken-hawk, &c. The haunts and habits of most of the others are, however, but little known, except to the patient Indian who frequents their vicinity.

The kites first claim our notice. There are several kinds here.

One, the Falco melanops vel asturina melanops vel milvus, is about the size of a duck; the head, body, wings, and tail, are black; the belly whitish. The beak is short, curved, and yellow; the throat is red; it has also a red patch around the eyes, which are of a reddish hue. The legs are red, rough, and scaly. These birds

are called by the Indians Pullatoo. They live in flocks, and make a great noise if disturbed; their scream is very shrill. They prey on insects, eggs, and small birds, and are chiefly found in the Savannahs.

The second species is known here as the swallow-tailed kite, Falco vel Nauclerus furcatus, owing to the tail opening like the blades of scissors. The throat, head, neck, breast, and belly are white; the wings and tail of a bluish black; the tail is long; the beak short and curved; the legs short. These birds fly very swiftly, and are met with in pairs or in flocks about the sand-hills and open plains.

The kites differ from the other hawks here in living occasionally on insects, and in their swifter flight. The beak and feet are weaker than those of the hawks. Numerous other species are met with.

It would, perhaps, be tedious to enumerate each individual hawk met with. I will content myself with dwelling on some of them only. The large brown hawk measures about one foot ten inches from beak to end of tail, and three feet across the wings. The plumage of the back, belly, breast, tail, and wing coverts reddish-brown, with a black patch in the centre of the larger feathers. The tail and wings are black; the plumage of the head and neck yellowish-white, with black streaks in the centre of the feathers, and a patch of black feathers in front of the throat.

The Crab-hawk is so called from its propensity to feed on crabs, which it diligently seeks for in muddy places. It is readily known by almost invariably being found with its claws and legs encrusted with mud. The plumage of the head, back, rump, wing, and tail coverts blackish-brown, with a ferruginous tint on some of the larger feathers; wings reddish-brown, tipped black, and spotted. The tail is bluish, edged white; throat brown;

breast, belly, and lower wing coverts red-brown, with waving lines of black; beak red at base, tipped black; legs and claws strong, scaly, and of a yellow-green colour. It frequents the mud flats, where crabs are plentiful.

The Mottled hawk is almost one foot four inches long, and measures about two feet across the wings; its plumage is variegated brown, black, red, and white.

Another species of hawk, the Insect-eater, resembles the crab-hawk. Its plumage is ash-coloured, with brown and black feathers; it is only about one foot in length, and the claws are often encrusted with mud. It feeds almost exclusively on beetles and other insects.

The Bull-dog hawk (*Ibycter leucogaster vel aquilinus*), called by the Macusis Callau-callau, and by the Warraus Yacka-tata, from the noise it makes, is found in flocks of about a dozen, on the trees along the banks of the rivers. This bird is also known as one of the Carracarra, or laughing hawks.

A species of hawk about one foot three inches long, is very daring, and is often to be seen alighting on the backs of cattle which are suffering from sores, in order, apparently, to feast on the maggots which are present. Its plumage is yellow-brown, with tints of ferruginous brown and dirty-white. It feeds on snakes, and is sometimes called the long-legged Snake-eater.

The Baridi hawk is about nine inches long, with a short but deeply-notched beak. This bird flies chiefly towards night, and preys on mice, bats, &c. It is found chiefly up the rivers and creeks. The plumage of the head, back, wings, and tail is of a bluish-black colour; the throat and part of breast are of a yellowish-brown; the belly and under part of the wings are prettily marked black and white; the feathers of the vent and thighs are

reddish. This bird never strikes its prey, but confines itself to pillaging nests, and destroying young birds

There are several species of falcons, the habits and appearance of which are highly curious. Some are known as the Laughing falcons (*Falco cachinnans*), from their peculiar cry, and are about six in number. One of these, the white falcon, is met with in the neighbourhood of marshes in the interior, where it feeds on fish and reptiles.

There are also the brown and the spotted falcons, and the yellow and the red-headed Carracarra hawks.

The common Chicken-hawk, Falco palumbarius, and others, are called Goshawks, and are known by their short and scutellated tarsi; their wings are shorter than their tails.*

The black hawk of this country is a large and powerful bird, very fierce and destructive, but not very common. It is found about the coasts, and attacks hen-roosts, rats, and other small quadrupeds. A large bird, the Curry-curry (*Ibis rubra*), was once shot by a sportsman, but before the bird fell to the ground a large black hawk seized it, and bore it away.

Another species of black hawk found up the river Demerara is much more uncommon than the above; according to Mr. King, a very respectable bird-stuffer and observant naturalist, its habits are allied to the species found on the coasts.

The blue hawk of the cataracts is a large bird, rarely seen on the lower parts of the rivers, but frequenting the rapids and falls higher up. A fine specimen of this beautiful hawk was shot with a single bullet by my lamented friend the late Dr. Bonyun while descending the dangerous rapid of Twasinki, lat. 5 degs., on the river

* Cuvier.

Essequebo. An interesting account of this, as well as the hawks of the country, has been given by the same gentleman.*

The large owl-beaked fish-hawk is found in the Savannahs, feeding on fresh-water fish, especially the "Hassar" (*Callichthys*), whose thick plates of mail are quickly separated by the remarkable beak of this bird, the upper mandible of which is very much curved.

A smaller species, the small owl-beaked fish-hawk, is found in similar haunts as the last; its general appearance and habits also resemble the other.

Both of these birds have long and powerful wings, as well as strong claws, and scour the Savannahs in search of prey.

The eagles, or ignoble birds of prey, so called because they are not readily employed in falconry, are singularly interesting in their habits.

One of these, the great Harpy eagle of Guiána (*Falco harpyia*), is the true Fisher eagle. It possesses of all birds the most terrific bill and claws, and preys on fish and small animals, such as the sloth, monkeys, and fawns. The plumage is ash-coloured on the head and neck; the mantle and sides of the breast are of a blackish-brown; it is of a whitish colour above, and is striped with brown on the thighs; it has a black tuft of feathers on the back of the head, which it erects at pleasure.†

It is solitary in its habits, and very ferocious. It has been known, when irritated, to attack a man, and its strength is so great as to enable it to inflict a fracture of the skull with its powerful beak. When young, the plumage of this bird is white. It is called by the Macusis "Guan," and is chiefly seen on the highest mountains of the interior.

* See Transactions of the Zoological Society, February 11, 1851.
† Cuvier.

The middle-sized eagle of Guiana is known as the crested Goshawk (*Falco ornatus*) and booted eagle, or sparrow-hawk. It varies in colour from black and white to a deep brown, and has a semicircular crest of black feathers, with a white central star, which it elevates when excited. It has a loud and peculiar cry—"Ha, ha, ha, ha."

The small eagle of Guiana, Falco guianensis, resembles in colour and crest the Falco harpyia above described; it is not, however, so large, and its naked and scutellated tarsi sufficiently distinguish it. Its habits and haunts are the same as the others. It builds its nest on trees about the coast and feeds on fish.

There is another eagle peculiar to this neighbourhood; it is known as the Falco cayennensis, or Petit autour de Cayenne. It is of a whitish colour, but I am unacquainted with its habits.

The following TABLE comprises a list of the numerous species of Eagles, Hawks, Falcons, and Kites, found in British Guiana.

LATIN NAME.	ENGLISH NAME.	INDIAN NAME.
Falco vel morphnus harpyia	harpy eagle	guan
„ „ morphnus guianensis	eagle of Guiana	
„ coronatus v. ornatus	crested goshawk	
„ magnirostris	great beak	ohtocanu and ajaking
„ gracilis		mohi
„ nitidus v. striolatus	plumbeous falcon	wonira
„ pœcilonotus		
„ concentricus		
„ v. asturima melanops	streaked falcon	
„ tyrannus	tyrant falcon	
„ sufflata	surinam falcon	
„ æquinoctialis		
„ v. odontriorchis cayennensis	little autour	
Nisus sexfasciatus		savato
Falco v. herpethores cachinnans	laughing eagle	ohto and mapillo
„ v. buteo pterocles		
„ v. „ abbreviatus		
„ v. ichthyoborus busarellus		
„ v. hypomorphnus urubitinga		waewipany
„ v. „ anthracinus		
„ v. „ buson	hobby buzzard	
„ v. „ rutilans		
„ braziliensis v. polyborus cheriway		cara-caran, caracca, and tosorih

Latin Name.	English Name.	Indian Name.
Milvago chimachima v. falco degener		wokira
Falco v. daptrius ater		outuanaitye
„ v. ibycter aquilinus vel leucogaster	carra-carra, or bull-dog	yacka-tata and callau-callau
„ aurantius	orange-breasted hob by	teu-teu (yeu-yeu)
„ v. hypotriorchis femoralis		sakutu
„ v. cerchneis sparverius		kiririh
„ v. harpagus bidentatus	notched falcon	umoi and otaca-raeyou
„ palumbarius		
„ v. gampsonyx swainsonii		komotoh-witwi
„ v. elanus dispar		marawia
„ v. ictinia plumbea		watatow
„ v. nauclerus furcatus	swallow-tailed kite	
„ v. rostrhamus hamatus		zitow
„ v. regerhinus uncinatus		moriro

Of the Second Order of Birds, or "Passerinæ."

Of the second order of birds of British Guiana the most prominent and remarkable are confessedly the large family of the Shrikes.

They are perhaps the first birds which attract the attention of strangers on their first arrival, by their numbers, their boldness, and their habits.

The most common is that so well known to the inhabitants as the Kiskadi, Lanius sulphuraceous. This strange name is a corruption of the French sentence "*Qu'est-ce-que-dit*," to which the shrill note of the bird bears some resemblance. It is constantly uttering this sentence, but it has also other notes shorter and deeper in tone. From the absence of shyness, these birds collect about the dwelling-houses, and do not seem at all disturbed at the presence of man. They are found very destructive to the produce of gardens, but are not often molested on account of the number of insects which they destroy. They feed on berries, fruit, insects, and worms; when feeding, they will allow you to approach so close as almost to touch them. They possess great strength

and boldness. I have often been surprised at seeing them striking large nuts with their beaks against some hard substance until they broke the shell. They did not seem to mind the concussion of the brain to which such severe blows must have subjected them. They are very pugnacious and quarrelsome birds, and are constantly at variance with one another, if we may judge by the noise they make when several of them meet together on the same tree. They boldly attack other birds much larger than themselves, such as the common vulture, pigeon, and even the hawks. From mere wantonness, apparently, they fly upon unoffending and harmless birds, peck at them, pounce on them, and dash at their heads, and worry them in every possible way; the victims all the time dodging about in order to escape the attacks of the enraged kiskadi. They also display their anger towards smaller birds, which they completely scare away by their violent assaults. If caught in traps or wounded, they are still undaunted, opening their wide mouths and snapping sharply at the fingers of their captor, and I have frequently known them to attack children and boys who annoyed or molested them. The most common species is met with in all parts of this country, the plumage of the wings and back is of a brown colour; the breast, belly, and vent are of a beautiful sulphur yellow; the head is parti-coloured black and white, with an erectile tuft of yellow and orange feathers. The female is of a different colour, and less handsome. The other species do not differ materially in their plumage and habits, and need not be enumerated. The kiskadi builds a slovenly, irregular-looking nest of thick grasses, generally upon the branches of some large tree; it looks more like a rat's nest, with a hole at the side. The female lays three eggs of a white colour, studded with black spots at the larger end.

These birds are very common both in town and country, and their perpetual vociferations attract constant attention. If excited or alarmed, they have a peculiar triumphant kind of cry, "Kis-kis-kiskadi." There are several varieties of the species here, but they are all recognised easily by their cry, and the peculiar brown and bright orange plumage.

There are numerous other species of shrikes, or birds closely allied to them, which deserve some notice here. The Lanius cayanus is often met with in the forests; it is nearly the size of a thrush; the head is large, of black plumage with some grey feathers; the throat, belly, breast, and vent are white, with the shafts of some feathers on the breast black; the back is ash-coloured; wings black, wing coverts ash-coloured, also the rump; tail black. It is a formidable-looking bird for its size, which is about eight inches in length, and has the habits of the other shrikes in ferocity and daring.

There are five or six different species of a shrike or butcher-bird, which are called here check birds, from the fact of their parti-coloured or chequered plumage, which for the most part in the males is black and white; the females are very different in colour, and would scarcely be recognised by one unacquainted with the red-brown plumage; they are in general about the size of sparrows; the beak is rather long and crooked. They are constantly met with among thick foliage, and have a peculiar loud and shrill note.

There are several kind of birds allied to the family of Tyrants, but I am not sufficiently acquainted with their habits to venture upon a description, and as they have a general resemblance to the shrikes, it is of less importance. There are, however, the Bald-headed Tyrant (*Gymno cephalus calvus*), the Fork-tailed tyrant, and the Tyrant of Brazil.

Birds belonging to the Tyrant and Shrike Families, according to the nomenclature of Professor Cabanis:*

Lanius sulphuratus vel Saurophagus sulphuratus—kiskadi
Lanius vel Saurophagus lictor
Scaphorynchus vel tyrannus audax
Milvulus vel Muscicapa tyrannus—Savannahs
Tyrannus vel „ rufinus
„ vel „ melancholicus
Myiarchus vel „ ferox
„ vel „ coronatus
Cyclorhynchus flaviventris
Myobius vel muscicapa barbatus
„ erythrurus
Elanea vel muscicapa pagana
„ vel „ cayennensis
„ aurifrons
„ brevirostris
„ albicollis
„ spadicea
Tyrannulus vel regulus elatus
Mionectes oleagineus

There are four or five different kinds of birds allied to the interesting families of Crown Birds and Chatterers. They are remarkable for their brilliant plumage and lively appearance. They are met with in all parts of the country, and feed on insects, seeds, berries, &c.; their general size is that of a thrush. They have no song,† but utter a lively note—"Qu'et."

One species (*Ampelis carnifex*) has a brownish-red body and breast, crimson belly, and brownish wings. The male is a splendid bird, and has a magnificent scarlet breast, head, and tail. It is known here as the Fire-bird.

The second species is of a splendid ultramarine colour, generally with a rich purple throat and breast, with dark wings and tail. It is known as the purple-throated Cotinga (*Ampelis cotinga*).

The third species is known as the "Wallababa," from the peculiar noise it makes. It is of a beautiful rich purple colour throughout, except about the wings, which are whitish, the four first feathers being tipped brown. (*Ampelis pompadour*) Pompadour cotinga.

The fourth species is a true Chatterer; it is of a blackish colour all over, and is readily distinguished by a tuft on its head—a kind of "feather helmet." (*Ampelis garrulus.*)

* Reisen in British Guiana. Richard Schomburgk. † Waterton.

There is another species of a blue colour (*Ampelis cærulea*). Here we have an instance of the most charming birds as to plumage, but which are destitute of song. Nothing is known in respect to their nests, for they retire during the breeding season far away from their usual haunts.

A species of chatterer is known here as the Bell-bird (*Ampelis carunculata*), from the fact of its sweet note sounding at a distance like the tinkling of a bell. In the silent forest the note of this beautiful bird is heard at a distance of a mile or more. The Indians call the bird "Dara," and the Spaniards "Campanero." It is about the size of a blackbird, but it is of an entire white colour when arrived at adult age. The young ones are greenish in colour, and gradually become white; the females, however, remain of a greenish hue. The male bird has a spiral tube, or caruncle, from two to three inches in length, composed of erectile tissue, and black in colour, situated on the top of the head; when loose, this caruncle hangs down, like the wattle of the turkey. They are melancholy birds, and perch themselves on the dried branches of the lofty mora-trees, pouring forth their bell-like notes, especially after rain. The note of the female is not so loud and clear as that of the male.

Another species allied to this is the Procinatus ventralis vel tersina cærulea. It is seldom seen, being rather a bird of passage than a constant resident in our woods.

The following species of chatterers have also been enumerated by other writers:

Ampelis cayana	Lipangus simplex
„ cineracea	

There are a number of small birds, called here Tanagers (*Tanagra*), which appear allied to the linnets and finches of Europe. Many of them have a fine lively

song. They abound throughout the whole country, and the variety of species is very great. Waterton, in his highly entertaining "Wanderings," says that he has met with eighteen different species; but I am only acquainted with twelve species; they vary greatly in size, colour, and general appearance; some are decked in green like the Love birds, others are of a dull brown and grey colour, whilst many are found with the most striking plumage, such as blue and purple. They are generally about the size of sparrows, and feed on fruits, insects, and berries. The wild fig-tree* is a place of great resort to them.

Many of them are known here by the name of Sackis, and are common about the town. These are of a lively blue colour, and are very noisy and quarrelsome. I have seen them fight so desperately as to fall down exhausted and struggling to the ground; so that they could easily be captured.

The Blue Sacki (*Tanagra serioptera*) lays two eggs, bluish colour, studded with purplish spots.

There is one species of grey sacki, and three other species variegated blue and black.

Another species of tanagra is white and black.

Two very small species are blackish in colour with yellow breast, and tuft over the beak.

Another species is of a splendid dark purple colour all over except about the breast, where the plumage is tinted reddish.

The following are the species of tanagers known:†

Tanagra serioptera		(blue sacki)
„ episcopus		(blue do.)
„ olivaseens		(brown do.)
„ archiepiscopus		
„ cayana vel callospiza cayana		
„ mexicana vel	„	mexicana
„ gyrola vel	„	gyrola

* Waterton.

† The above list is taken from Richard Schomburgk's "Reisen in British Guiana."

Tanagra punctata vel callospiza punctata
„ tatao vel „ tatao
„ atricapilla vel pogonothraupis atricapilla
„ nigerrima vel tachyphonus nigerrimus
„ ochropygos vel „ ochropygos
„ cristatus vel „ cristatus
„ canicapilla vel geothypis nelata
„ iridina vel hypothlypis iridina
„ violacea vel euphona violacea
„ cayennensis vel „ cayennensis
Euphona minuta

Allied to the tanagers are the warblers (*Motacilla*), of which there are several species here; in their habits and appearance they are somewhat similar to the thrushes, and it is difficult accurately to define the distinctions between these families.

The species described are—

Motacilla vel henicocichla noveboracensis
Phœnicosoma vel pyranga azaræ
Rhamphopis atro-coccineus
Troglodytes rufulus
Cyphorhinus leucostictus
„ vel turdus cantans (sings well)—wren
Thryothorus platensis
„ albipectus
„ coraya
Campylorhynchus vel furnarius griseus
Donacobius vel turdus atricapillus

The Thrushes—*Turdus, Turdidæ, Dentirostres.*

The thrushes of this country are equally interesting with those of Europe, but do not exist in such numbers; several species are met with about the city, and are known to have a sweet song. Early in the morning these birds may be heard about the houses. They are very shy, build their nests in lonely places, and are seldom molested by the inhabitants. There are six or seven different species met with; they differ much in size, but their plumage is more or less alike. The following are the names of the species known:

Turdus fumigatus
„ gymnophthalmus
„ albiventer
Turdus phæopygus
„ albicollis

The lazy-bird, as it is here termed, is about the size of a small thrush, but is in no other way allied to it. Its plumage is, however, in general of a brown colour, and it has rather a long tail. It derives its appropriate name from its indolent habits; it builds no nest of its own, but in a cowardly manner deprives the little wren of this country of hers, destroying the eggs and substituting its own in place of the others. There is often great disturbance occasioned in the galleries of the houses by these domestic disputes between the excited little lady wren, thus turned out of her dwelling and robbed of her progeny, and the domineering lazy-bird, which appears to think that might is right.

Allied to the thrushes and the shrikes are a number of birds commonly met with, and of which there is little to say as to their habits and appearance—a list, merely, is therefore given of such birds:

Myrmonax vel turdus cinnamomeus
„ leucophrys
Pyriglena vel lanius funebris
Hypocnemis vel turdus tintinnabulata
„ pœcilonota
Holocnemis vel turdus lineatus
Pithys vel pipra albifrons
„ vel turdus pectorales
Conopophaga angustirostris
Colobathris vel pitta macularia
„ vel turdus tinniens
Myiothera vel „ colma
„ analis
Dasy cephala vel muscicapa thamnophiloides
D. „ uropygialis
Thamnophilus vel lanius doliatus
Thamnophilus stagurus
„ cirrhatus
„ nævius
„ ruficollis
Formicivora vel motacilla grisea
„ vel myrmothera axillaris
„ vel muscicapa pygmæa
„ vel myiothera quadrivittata
Rhopoterpe guttata
Thamnomanes glaucus
Furnarius leucopus
Lynallascis ruficauda
„ ruficapilla
Anabates pyrrhodes
Xenops dentirostris

The wrens (so called) of this country are allied to the ant-catchers on the one hand, and to the creepers on the other; some of the birds of this class are very tame, and build their nests in empty bottles and holes about the houses and garden trees. They are of a reddish-brown colour, and have a remarkable sweet and cheerful song. The female lays one small white egg.

This species is called Thryothorus platensis ; they are very useful in destroying insects which infest the houses, and their pleasing appearance and note render them popular favourites here as well as elsewhere. A bird allied to the wren is very like a canary in size and appearance; the plumage is of a greenish-yellow; it has a lively note.

The fly-catchers (*Muscicapa*) are represented here by the

Muscicapa vel basileuterus vermivora	Muscicapa vel setophaga ruticilla
	Setophaga castaneocapilla

The fly-catchers are an interesting group of birds; they live on insects, and have horizontally depressed bills with a slightly hooked point, and are furnished with bristles at their base.

Their habits are in general so like those of the shrikes as to render further description unnecessary.

One species has a long bifurcated tail, which renders its flight heavy and jerking. It perches on a bough and watches the approach of insects; when one is discovered, the bird darts towards it and seizes it with its unerring beak, and wheeling round resumes its seat. It opens and shuts its tail in flying just like the working of a pair of scissors. The head is black, with a few yellow feathers at the top; the throat and breast are white; the back and rump ash-coloured, wings brown-black, and the tail blackish and forked, the two outside feathers being eight or nine inches long.

The manakins are very small birds, with the most varied plumage; there are several species of them; the largest is white and black, and about the size of a wren; another is red and black ; one species is black with a white crown ; another like the last, but with a yellow and red head; another species is dark-coloured, with a white throat.

The manakins are forest birds, and are constant visitors to the wild fig-tree when the fruit is ripe.

The following species are described:

Pipra pareola	Pipra cornuta
„ longicauda	„ leucocilla
„ manacus	„ serena
„ aureola	Zenopipo atronetens
„ aurocapilla	Hemipipo chlorion

A very peculiar bird is allied to the family of manakins, although much larger in size and belonging to a separate group, it is well known as the "cock of the rock" (*Pipra rupicola*), or hoopoe hen. The male is of a splendid orange colour on the body and head, the wing feathers are brown, edged with yellow and red like the tail, the beak is reddish yellow. There is a fine tuft of feathers, crescent shaped, placed on the head like a cocked hat; the eyes are yellow white; the tail is short and square, and looks as if it had been docked. The female and young birds are of an obscure brown with a diminutive comb or crest. The female lays two eggs, and scratches the ground like the common fowl, which it also resembles in other respects. They build their nests chiefly of wood among the rocks, are solitary in their habits, and live chiefly on fruit. Some of the antics exhibited by the male birds are very remarkable; they are described as inclined to dancing, and have been seen capering about throwing up the head, opening the tail like a fan; now strutting about, and scratching the ground with a hopping gait, gabbling all the time until tired, when another bird takes up the performance, the others looking on with apparent delight.

There are numerous kinds of the swallow tribe met with here. Their habits are much the same as in colder countries, except that they do not migrate. They are chiefly seen in wet weather, and are frequently noticed about the mouth of the river, resting on the ropes of the

ships close to the stellings, and not unfrequently on the trees and rafters of wooden buildings. They are rarely seen in such large flocks as in Europe, owing, no doubt, to the fact of there being no necessity for them to congregate previous to a voyage. They build their nests in chimneys and wooden buildings that are not much frequented. I remember seeing, however, a long pendulous nest built by one species in the gallery of the public buildings, a place frequently thronged by people.

Another species constructs a beautiful nest of twigs which hangs suspended on the branches of trees.

I was once told by a party in the habit of shooting birds to stuff and sell, that he had met with one species of large size ; a flock of about fifty was passing and he could only procure one specimen. Its wings when extended measured about a foot in length, in all probability this was a species of the swift (*Cypselus*), which bird is not often seen in this country.

Martins and swallows are constantly seen on the sugar estates, where they frequent the neighbourhood of the "megass logies" (large wooden buildings like barns, open at the sides, and used for the storing of megass or dried cane after the saccharine juice has been crushed out by rollers), no doubt for the number of flies and other insects which abound there. Early in the morning, and about sunset, the swallows are particularly active, their rapid and graceful movements in eager search for prey invisible to human eyes afford an ever interesting sight to the naturalist.

One species of swallow met with up the Demerara river is exactly four inches long, including the tail, it measures also four inches across the wings. It has a blackish head, wings, back, and tail, the rump is white, the throat whitish, whilst the belly is of a buff colour speckled brown and grey ; the tail is short and square, and composed of ten feathers, which have their

quills or shafts projecting beyond the barb, and very sharp pointed ; the legs are not feathered low down.

A second species is of the same size as the above, but it has a forked tail about three inches long. It is of a blackish colour on the head, back, wings, side, and tail, but the feathers on the head, back, tail, and wing coverts are edged white; the throat and belly are whitish. The legs are feathered as far as the toes.

A third species (*Hirundo purpurea*) is larger than the other two, and is of a deep bluish black on the head, wings, and back, whilst underneath it is white ; the tail is square.

These birds are chiefly seen among the shipping, and oftentimes rest on the courida trees adjoining the river.

A fourth species I received from Berbice (Canje Creek). It is of large size, being from five to six inches in length, including the tail, which only measures two inches, and is composed of twelve feathers, the outside ones being a little longer than the others; the colour of the head, back, rump, and wing coverts is bluish black ; wings and tail brownish black; throat and breast greyish brown ; vent, belly, and sides whitish.; legs not feathered ; the thumb opposing the other toes.

A fifth species was shot at plantation Aurora, Essequebo. It is larger than the others, measuring six inches in length, and nine inches across the wings. The colour of the head, back, and wings is lustrous steel blue ; the rump, throat, belly, and vent are white; the feathers of the upper wing coverts are edged white on the outside; the tail is square, of a greenish black colour, the two outside feathers being edged white.

A sixth species (*Hirundo albicollis*) I procured from up the river Demerara. It is from four to five inches in

length, has a forked tail and long narrow wings, which stretch backwards about half an inch beyond the tail. The head is round, and of a bluish black colour; the beak is short and crooked; a white patch of feathers is placed in front of the eyes. The throat and front part of the chest are white; a circle of white feathers surround the neck like a collar. The back, tail, belly, and vent are bluish black; the wings of a similar colour, but most of the feathers are edged white; a patch of white feathers is placed at the sides of the rump; the legs are feathered as far as the claws.

This bird builds a peculiar nest, which deserves notice: It is pendulous, and about one foot in length; it is made up of some woolly substance, and resembles spongio-piline in appearance. It is open at the top, and half way down the inside there is a projecting ledge.

The following species are described in Richard Schomburgk's work.

Hirundo vel progne purpura	Hirundo melanoleuca
„ vel „ tapera	„ vel atticora fasciata
„ leucoptera	„ albicollis

The Goat-suckers (*Caprimulgus*), as they have been improperly termed, are an inoffensive and interesting class of birds, which have been admirably described by Waterton. They have been styled by the French* "Engoutevent," or swallowers of wind, from the fact of a peculiar humming sound which is occasioned by the rushing of air into their large mouths when distended in the pursuit of insects. The goat-suckers rest in the forests during the day, and come out towards night in search of food, which consists of moths, flies, and other insects. Their eyes cannot bear the light. It is a vulgar error to suppose that they feed on the milk of animals, for

* Cuvier.

although frequently seen hopping about near to cattle, it is only for the purpose of ridding them of troublesome companions, such as flies and worms. Waterton says that there are nine species here, and that the general plumage is like that of all night birds.

The following are the names of eight species:

Caprimulgus albicollis	Caprimulgus nigrescens	Caprimulgus grandis
„ decussatus	„ furcifer	„ rufus
„ cayennensis	„ nacunda	

They have a remarkable cry, plaintive and soft; neither the Indians nor negroes like to destroy these birds; they are regarded as omens, and by the ignorant are considered as the habitations of departed souls. They are reported to sit longitudinally on the branches of trees.* One species is about the size of a wood-owl; the general plumage of all of them is very like that of owls, and does not require description; two species are about the size of thrushes; one species is of the size of a pigeon, and the others are smaller. They lay a small number of eggs on the ground, and are very indifferent as to the mode of nest.

The Sparrow tribe.—*Conirostres, Tringilla.*

The birds of the sparrow tribe are numerous in variety, but are little understood as yet. Many of them are called here grass birds, from the fact of their feeding and building their nests chiefly in the long grasses about the roadsides. Their plumage is generally dull, being black, brown, or bluish. One common species constructs a nest, close to the roadside, of thick grass and twigs. The female lays three or four eggs, of a neutral tint colour with purple spots.

The following species have been described:

* Waterton.

Saltator vel tanagra magna
„ cœrulescens
„ olivascens
„ vel tanagra atra
Pitylus vel loxia grossus
„ vel loxia canadensis
Cissopis minor
Arremon vel tanagra silens
Arremon personatus
Calyphtrophorus vel tanagra gularis
Coccoborus ater
Sporophila vel loxia americana
„ castaneiventris
Sycalis vel Fringilla braziliensis
„ minor
Zonotrichia vel Fringilla matutina

There are a great many species of the Cassique in this country. They are generally known as mocking-birds, and are called by the Indians Suwacco. They imitate in a very remarkable manner the notes of other birds, also the barking of dogs, or bleating of sheep. They delight especially in mocking the Guinea-birds. They are gregarious in their habits, and feed on fruit, seeds, &c. When not better engaged, they amuse themselves by throwing themselves forward and downwards from the branches of trees, and rise again repeating the joke. These birds have a sort of song of their own, short and sweet, but it does not come up in talent to their imitative notes, which are surprisingly accurate. Their nests, constructed of roots and grasses, are very remarkable, being about three or four feet long, pendulous, and attached to the branches of trees, where they are sometimes seen in great numbers, three or four hundred sporting in the breeze; being placed, however, on such fragile foundations, they are admirably secured from the approach of animals.

About seven species are commonly noticed.

One is about the size of a large blackbird, has a shining black body, wings, and tail; the belly and rump being of a bright orange-yellow, and the beak sulphur colour.

A second species is entirely black, except the rump, which is bright yellow.

The third species, Cassicus vel oriolus cristatus, is the largest, and has a chocolate-coloured body and wings;

yellow patch on neck, and ten yellow tail-feathers, the two centre ones being black, and shorter than the others; beak black, tipped yellow. It has an erectile tuft of five or six long black feathers on the head.

The other species have all yellow tails, with chesnut-coloured, or greenish yellow bodies.

The following are the species of cassique known:

Cassicus cristatus	Cassicus hæmorrhous	Cassicus albirostris v.	xanthornus
„ viridis v. angustifrons	Cassicus persicus	„ „	chrysopterus

The Troupiales, icterus vel oriolus, are an interesting group of birds. They have a sweet song, and have been called the nightingales of Guiana; the black and orange species especially has a sweet note.

The Troupiales, or Carange,* are easily domesticated, but cannot be kept in cages. They build long pendulous nests, like those of the mocking-birds; the females are not so brightly robed as the males; the colour of the plumage in some species is quite different.

There are several varieties commonly known; one has black wings and tail, golden yellow head, neck, and breast. It is about the size of a thrush, and has a sweet and plaintive note. Another species is smaller, the body and throat are yellow. This species goes about in flocks, and has an indifferent song. The third species, Icterus vel oriolus xanthornus, has a black head and throat, bright yellow breast, and patch on shoulders; the wings are black, with a few white feathers; it is called here the plantain bird. The fourth species, Icterus chrysocephalus, is small, has a yellow head and body, black tail and throat, with parti-coloured wings. The species known are:

1. Icterus xanthornus — plantain bird	2. Icterus jamacaii
	3. „ chrysocephalus

* Vielot.

Another species allied to these is very commonly met with in flocks around the roads and fields, where it feeds on the grain and insects mixed with dung. It is an entire black colour, and very glossy; its tail is hollowed out like a boat when it flies, and sometimes fan-shaped. It is a true Icterus, and has been termed the Boat-tailed Grakle,* (*Sturnus vel Icterus jamaicensis*). Other species allied to the above, are—

Sturnella ludoviciana	Chalcophanes vel sturnus jamaicensis
Molothrus atronitens	„ minor
Lampropsar guianensis	

A species of pie is known here as the Ricebird, Black Cassique, or Surinam Crow, Cassicus Niger. It is of an entire glossy and lustrous black colour. The feathers around the neck are erectile, and form a kind of muff, giving these birds a curious appearance when hopping about. Their general size is that of a jackdaw. They are met with near habitations, where they plunder the corn and rice-fields. They are sometimes seen in flocks of fifty or more, and occasionally hover about cattle, evidently for the purpose of treating themselves to a stray insect. They approach the orioles in their mode of flight, which is very rapid, and also resemble them in other respects.

There are two species of jay in British Guiana. One species, Corvus cayanus, is called Ibibirou by the Indians. It has a black forehead and beak, the rest of the head being white; the breast and belly are whitish, the throat black; the wings are of a bluish purple, the back is brown, and the tail is of a greyish purple, tipped with white. The other species, Corvus hyacinthinus, is of a lilac blue colour; these birds are seldom seen near the habitations of man, and are very shy and restless.

* Cuvier.

Two species of birds are closely allied to the starlings; one has a brown back, red breast and throat, and is called here the Robin Redbreast; it is very tame, and is seen along the roads, where it sometimes assembles in flocks. Its name is Leistes americanus vel oriolus Guianensis, vel tanagra militaris. The other species has a black body and yellowish head; it is about the size of a thrush, and sings prettily. It is known as the Icterus vel oriolus ictero cephalus.

The Creepers—*Certhia.*

The Creepers, or Iawarracire, are small birds which are met with in the Savannahs and forests. They have no song, but are beautifully attired. Their bodies are long and narrow. They have long slender sabre-shaped beaks. There are, at least, six or seven species known whose plumage greatly varies, being generally blue, black, or green.

The species known are:

1. Certhia vel dacnis spiza
2. Dacnis vel sylvia cyanocephala
3. Dacnis vel „ cayana
4. Arbelorhina vel certhia cayanea
5. Arbelorhina vel certhia cærula
6. Certhiola flaveola
7. Diglossa major

Trochilidæ—Humming Birds.

The humming birds form a very interesting group in the ornithological family of British Guiana. They are met with in all parts of the country, and vary in size from a large bee to a wren. They have all long and slender beaks, which are more or less flexible, and bend like strips of whalebone. Some have straight beaks, others curved or sabre-shaped. The plumage of all is bright and glittering. They live chiefly, if not altogether, on insects which are to be found inside flowers. If one of these interesting little birds be watched whilst

in search of food it will be seen hovering about some shrub or plant in flower; suddenly, with a rapid wing, it darts opposite the expanded corolla, and vibrating its tiny wings so rapidly as almost to defy perception, it dips its tiny beak, with unerring certainty, into the waving chalice which contains its food. Having snatched the unsuspecting insects which had been revelling in all the luxury of honied repasts, the gay destroyer passes on to other flowers, until his appetite is satisfied. From thus seeking flowers, it has been often stated that these birds live on the honey or saccharine fluids found there; but although, no doubt, they do not despise the honey when met with, they are chiefly attracted by the insect food. Some humming birds build their nests on branches of trees overhanging water, probably thinking this a secure place; but they are frequently washed away by high tides, or attacked by snakes.

The humming birds, though small, are bold and active. They attack birds much larger than themselves, and chase them like shrikes.

Their nests vary according to their species; some have a kind of rim on the edge to prevent the eggs from rolling out. The female bird lays two white eggs. The males do not appear to assist in the building of the nests, nor do they help to feed the young ones.

The following species have been described:

Trochilus moschatus		ruby crested humming bird	
„	viridis	common green „	
„	graminensis	black breasted „	
„	rufigaster	rufous bellied „	
„	auritus	golden green „	(large)
„	auriculatus	„ „ „	(small)
„	ornatus	tufted neck „	
„	furcatus	forked tail „	
„	latipennis	sabre wing „	
„	sapphirinus	sapphire throated „	
„	platurus	racket tail „	
„	petasophorus	violet tufted „	
„	bicolor	sapphire and emerald „	
„	rivolie	rivoli „	

Trochilus pella	topaz throated	humming bird
„ mellivorus	white collar	„
„ amethystinus	amethyst	„
„ anais	blue bellied	„
„ rubineus	ruby throated	„
„ leucurus	white tailed	„
„ mango		
„ pectoralis		
„ brevirostris		
„ superciliosus		
„ braziliensis		
„ hirsutus		
„ pygmæus		
„ longmarcus		

Six different kind of king-fishers (*Alcedo*) are known here, some of these are very small, others as large as a pigeon. They have the same habits as those of other countries, and construct their nests in holes on the banks of the rivers. They are very shy and lonely birds, sitting on the branches of trees where they can have a good look out for the fish which sports in the water near them. No sooner is one perceived than the active king-fisher plunges headlong into the water, is lost, perhaps, to view for a few seconds, when it is seen to emerge from the wave holding its prey between its mandibles or claws, and hastens back to the same spot whence it started, to digest its food at leisure. The plumage of these birds is varied and pretty, but does not equal in splendour that of the European king-fisher.

This bird is called by the Caribs "sacka sacka," and by the Arrowaaks "saxicarlie."

The following are the species known:

Alcedo torquata	Alcedo americana
„ amazona	„ superciliosa
„ bicolor	

In the same family of birds as the king-fishers we find the blue-headed mot-mot, or "houton," or "hutu," which latter name it derives from the peculiar noise it makes. It is a very handsome bird, the colour of the body is made up of different shades of green; the wings

and tail are bluish, on the head there is an erectile crest of black feathers surrounded by azure blue feathers of two different shades ; a patch of black feathers, edged blue, extends from the eye to the ear, whilst on the breast there is a similar tuft of nine feathers, or sometimes only a small patch of black ; a black membrane encircles the eye ; the beak is strong, and serrated towards the middle ; the eyes are reddish brown ; the tail is made up of twelve long feathers, overlapping in pairs, the under ones being much the shortest, and those above them gradually increasing in length.

The "houtou" has a curious habit of stripping off the barb of the two longest feathers of its tail, commencing about an inch from the extremity. I have, however, seen specimens in which this notched appearance of the tail did not obtain. The haunts of this bird are the gloomy forests ; it is solitary in its habits, and feeds on birds and insects, preferring the low brushwood to the loftier trees, except when tempted by some favourite fruit, such as the bastard "silvabali" affords.* It is sometimes seen with a small snake in its mouth, as if it occasionally indulged in that article of diet. It makes no nest, but hatches its young in sandy holes.

It makes a monotonous sound, "hutu-hutu," hence the corrupted word houtou.

The third order of birds, the Scansoriæ, consists of those which are called "climbers," from the fact of their being able to climb on trees, and other objects. To enable them to do this they have the external toe directed backwards like the thumb, by which construction they can grasp the body which is to support them in a very efficient manner, as may easily be proved by examining the feet of the common parrot, wood-pecker, and other birds. The jacamars are of this order, and

* Waterton.

deserve notice. These birds are seldom seen except by the Indians, who shoot them up the river Essequebo; they have no song, but are clothed with a brilliant golden green plumage; they are generally found on rocky mountains, sand hills, and savannahs; the smaller species frequent the savannahs and woods. They have long pointed bills, and may be considered as closely allied to the bee-eaters. They feed upon insects such as moths and butterflies. These birds are of indolent, sedentary habits, they are often seen pensively sitting upon the branches of trees which overhang water, and now and then lazily to dart upon some roving insect. There are several species here; the largest (*Galbula grandis*) is about the size of a thrush, it is of a golden green colour on the head, back, tail, and breast; the belly is red brown, and the throat white; the tints are singularly beautiful. Another species is similar to the last in colour, but smaller in size, the tail is as long as the body. A third species (*Galbula flavirostra*) has a yellow beak and claws, but in plumage resembles the others, except that the breast is not greenish. A fourth species is about ten inches in length, including the tail, which is six inches long, hence it is called the long-tailed jacamar; the plumage is bluish and brown black. All the male jacamars have white feathers on the throat.

The species are

Galbula viricauda	Galbula alliventer
„ septura	„ lugubris
„ flavirostra	„ grandis

Belonging to the order of climbers are two birds which merit description, and which I believe are not generally known to naturalists, the "Boclora," and "Cuia." The "boclora," or wow-wow (*Trogon melanopterus*), so named from the noise it makes, is about the size of a small pigeon. Its head and breast are dark blue, its belly

orange yellow, the back greenish blue, the wings black, the tail parti-coloured green, tipped blue and black, with four of the under feathers white at the outside and tip; the beak is short, strong, arcuated, the upper mandible strongly dentated and curved at the tip; there are five bundles of strong hair at its base. It is so short in the legs as to be ill adapted for walking. The legs are feathered to the toes. If the head is bent forwards a portion of the neck will be discovered without feathers. Its habits are very strange; it appears heedless of danger, and is scarcely startled by noise. It never takes long flights, and progresses in jerks.

The "cuia" is somewhat similar to the "boclora;" its head, breast, beak, and rump are of a shining changing green; its belly vermillion, with a white streak in front; the tail is black, green, and white. There are small species met with of each of these birds, but although differing slightly in plumage, their habits accord. I once saw a species of bird allied to the cuia in the forests of Essequebo; it was of a slate colour on the head, back, breast, and neck; the belly and vent red; the wings brown and grey; the tail was brown above, and speckled underneath; the feathers were remarkably loose; the beak short, broad, and crooked. This bird made a singularly loud noise.

The species known are

Trogon melanopterus	Trogon meridionalis
„ melaneurus	„ atri-collis

The wood-peckers (*Picus*) are a large family of interesting birds, which abound in the forests. There are, at least, fourteen species in this country, most of which I have seen. They are easily recognised by their peculiar shape, and by their bills which are long and narrow. Each of these species has a habit of sounding decayed

trees with their beaks, in order to find if any insects are present on which they prey. They only trouble suspicious looking trees, and those which their instinct leads them to believe are hollow and dry. An Indian can recognise the different species of wood-pecker by the sounds they produce when thus hammering on the trees. At a distance the large species make a sound like the woodcutter's stroke when felling trees. When any insects are discovered, the slimy tongue of the wood-pecker entraps them to their destruction. They build their nests on high trees, whose unsoundness precludes them from the attack of animals; generally two young birds are produced. The cry of the wood-pecker is peculiar, not unlike to the mewing of kittens. The Indians give them the general name of "cotooti." The largest species is about the size of a pigeon; it has a black and white body; with an erectile tuft of red feathers on the head, which, indeed, is characteristic of almost all the species. Another species is called the red-headed wood-pecker; its general colour is brown; it is about thirteen inches in length. Several species are of the size of larks, and variously coloured, bluish, black, brown, and grey, with red patches. One species is of a yellowish colour with red cheek.

The species known are

Picus albirostris	Picus multicolor
„ rubricollis	„ rubiginous
„ minutus	„ chlorocephalus
„ cinamomeus	„ passerinus
„ exalbidus	„ sanguineus
„ rufus	„ lineatus

The name of climbers is given, par excellence, to a tribe of small birds closely allied to the wood-peckers, which they very much resemble in habits and structure, except that the tail is longer in proportion, and the feet are not so well adapted for climbing, hence an inconsistency in calling them by their present name. They

go about in flocks, not singly as the wood-peckers, and hunt the bush through for the insects which are crawling about on the trees. They have generally a large species of wood-pecker with them as a sort of chief or pioneer, whose movements they follow; when, by his noise, they recognise him to have discovered a tree rich in insects, they hasten there, and assist him in the work of slaughter. They strike the trees occasionally with their beaks, but in general are not industrious or patient enough to penetrate the branches for their living food. They vary in size from a sparrow to a large lark. Their plumage is dull and uninteresting, being reddish brown with speckled breasts, and their beaks strong and crooked.

The "keel bill" (*Crotophagon ani*) is the name given to a bird, on account of its upper mandible being shaped like the keel of a vessel. There are two species in this country, the large and small. The small species is well known as the "old witch," or "jumbi bird," and may commonly be seen hopping about the road side, especially where there are cattle. It is so tame as to jump on the backs of cows, pigs, etc., for the sake of the insects which infest them. It is an unwieldly, ugly looking bird of a dull black colour, with a long fan-like tail; the head and beak are large, the latter broad and strongly arcuated. These birds have a shrill note, and the females lay a white oval shaped egg. The large species is prettier, being of a bluish-black colour.

The barbots, "bucco," derive their name from the barbs, or bristles, which in bunches are placed at the root of the beak, which is strong and curved, the upper mandible being grooved to admit of the lower one; the legs are short; the head disproportionately large. They are not unlike the butcher shrikes, but their claws are adapted as "climbers." These birds are of lazy, indolent habits, and are very indifferent to danger. If fired at

by the sportsman; unless the shot is fatal, or very close to them, they rarely move, or else jump on another branch of the same tree, and await their fate. They go about singly, and do not fly well, having very short wings. They feed on insects chiefly, and have no song. There are several species in this country; one is about the size of a small parrot, has a very large head, and is of a brown colour, with white throat and grey white belly. A second species is smaller; head and throat brown; breast and tail brown, and speckled grey. A third species is of a black colour, with band of white feathers round the throat. A fourth species (not described in books), found up the river Demerara, is about the size of a paroquet; head, body, wings, and tail brown streaked with yellow; white band round throat; bill black at tip, yellowish at base; another species, if not a barbot, closely allied to it, is about the size of a thrush; the plumage is greenish black, with some white feathers on wings; tail square; beak reddish; it is called by the negroes, "butcher bird." There is another species much like the last in colour, but smaller in size, and having a black bill.

The species known are

Bucco macrorhynchus	Bucco tenebrosa
„ tamatia	„ cayennensis
„ tranquilla	

The habits of the Cuckoos (*Cuculus*) of this country are much the same with those of Europe, they lay their eggs in the nests of other birds, and feed on insects; but I have never heard them repeat the same plaintive note as the others. They are to be met with in the forests, and do not approach habitations. There are four or five species here. Two of different size are of a brick-red colour, with long tails tipped with white; light red beak, overlapping at top. The larger species is of the same

size as the English cuckoo, but the tail is longer. A third species is of a speckled grey brown, like the wood-lark, with a crest on its head, dark eyes, and light brown beak short and curved. The fourth species is of a leaden colour with a whitish breast. The species are

Cuculus galeritas
„ cayanus major
„ „ minor
Cuculus minutus
„ helviventris nov. spec.

The Parrots (*Psittacus*) of this country are both numerous and of the most varied kind. They are constantly to be met with in the forests of the interior; but at certain seasons, when the guava-trees are in fruit, they fly over town and country in large flocks of a hundred or more, arranging themselves in pairs. Very frequently only single pairs are seen faithfully wending their way together to the spot where the ripe guavas are prevalent, where they feed early in the morning, and towards sunset, at which hours they become the victims of the sportsman, who shoots them for eating; when roasted or made up in pies they are considered excellent food, and are much sought after by the negroes. There is no difficulty in finding their place of resort, for they make an incessant noise in feeding; sometimes they are difficult to shoot owing to their lofty flight, and it requires heavy shot to bring them down as they are very tenacious of life. It would be difficult and tedious to enumerate the different species met with; the larger kinds are green in colour, and are called by the Indians "Saramaca;" one species called "Toutou," is of a bluish green with red in the proboscis; another species, Psittacus æstivus, called the "Screecher," is also bluish green with yellow round the beak; a third species, Psittacus ochrocephalus, well known as the "Amazon" is the most common, its colour is a beautiful green with a yellow cap, and a patch of red feathers on the shoulders; sometimes these parrots are

beautifully mottled green. A fourth species, Psittacus accipitrinus, is called "Hia-hia," or Parrot of the Sun, it has a circle of tartan-coloured feathers round the back of the head, which are erectile; the forehead is white, the back, wings, and tail green; the breast and belly tartan. The parrots build their nests in old trees, and lay in general two eggs.

The Parroquets (*Psittacula*) are smaller than parrots, and fly much swifter, not in pairs like the latter, but generally in large flocks. There are numerous species, which may be divided into the large and small; of the former the plumage varies greatly. Some are green, with black head, and orange-yellow breast, belly, and throat; others are mottled bluish black with grey breast; others bluish green with blue head: others green with brown feathers round the neck like shells, hence called Shell-necked; the head is black, tail feathers yellow and blue. One remarkable species is called the "Seven-coloured Parroquet," it is about the size of a thrush, the head and neck are of a golden green, the breast and belly bluish green, the back and long wing feathers are of a dark brown, the rest of the wings are yellow and purple, the tail is lilac purple, edged with black. These birds are chiefly met with in the creeks, and are shot only towards night. They feed on fruit and seeds. The female has the same colours, but they are not so vivid.

Of the smaller kinds of parroquets (*Psittacula*) there are about eight species, some of which are but rarely seen, and perhaps never described. They are chiefly of a green colour, some with purple tails, others with golden wings; they are all beautiful; a very small species known as the "Love-bird" (*Psittacula passerinus*) is of an entire green colour, and flies in flocks about the gardens of the town and country, where seated amid the evergreen foliage, they are difficult to be distinguished from

the sparkling leaves. They build their nests on trees, and sometimes a nest is found where wood-ants have constructed their singular habitations.

The beautiful Kessi-Kessi (*Psittacus vel conurus solstitialis*) is frequently caged and made a pet of by the inhabitants.

The Macaws, or Aras, have a wide-world reputation on account of their magnificent plumage and singular appearance. There are four specimens if not more in British Guiana, and they are readily distinguished from the parrots by their long tail; in general they are of a greenish colour, variegated with red and yellow. The true "Ara" has a splendid scarlet body, with patches of red, blue, yellow, and green about the wings. They fly in pairs, and in flocks. Another species is of a lighter red, whilst a third is more or less blue in colour.

The following list comprises the birds of each tribe:

Parrots (*Psittacus*)	*Parroquets* (*Conurus*)	*Macaws* (*Macrocercus*)
Psittacus menstruus	Conurus tuipara	Macrocercus aracanga
„ maximilani	„ tiriacula	„ ararauna
„ melanocephala	„ canicularis	„ macao
„ pileatus	„ versicolor	
„ purpuratus	„ pertinax	
„ festivus	„ solstitialis(kessi kessi)	
„ pulverulentus	„ guianensis	
„ dufresneanus	„ nobilis	
„ ochrocephalus	„ macavuana	
„ ætivus	„ severus	
Psittaculaus passerin		
„ gregarius		
„ modesta		

The Toucans (*Ramphastos*), or Bill-birds, are perhaps the most singular looking of the ornithological tribe met with in British Guiana. They are easily recognised by their enormous bills, which in some species are about six inches in length, and fully two in depth, marked with the most striking colours—such as red, black, and yellow, and having a horny appearance. These coloured bills, unless

particular attention is paid to them,* fade after death, and soon lose their brilliant hues; it is remarkable that the colours of the bill are also those of the plumage. These birds build their nests in hollow trees; they are social but not gregarious, and having short wings and such unseemly mandibles fly but little, and in jerks. They carry the tail erect, except in flying; they feed on fruit, seeds, peppers, insects, and occasionally bird's eggs, &c.; they catch the seeds at the point of the beak, and jerk them into the throat; they have a long feathery-looking tongue; their note is loud and whistling, and they generally commence to cry on the approach of rain. They are chiefly met with in the forests, where they delight in resorting to the lofty mora-trees; the Indians knowing their haunts will shoot many of them from the same tree either with the gun or arrow. In Surinam they call the Toucan "Banara beak" or "Cujacai," and some of the Indian tribes call them "Piapoco," from the noise they make.

There are numerous species large and small as follows:

Rhamphastos toco	Pteroglossus aracari	Pteroglossus pluri cinctus
„ erythrorhyncus	„ viridis	„ sulcatus
„ dicolorus	„ piperivorus	„ nattereii
„ vitellinus	„ inscriptus	„ bitorquatus
„ osculans		

One species, the largest, is found on the eta and cocorita palms, it is called by the Indians "Bouradi," which is rather personal, that word signifying "nose;" the head, wings, tail, and body are black, with yellow and red feathers at the throat and breast. A second species is known as the Yellow Earlet, owing to a patch of yellow feathers close to the ear; a third species has a black and whitish bill serrated at the edges; a fourth species has greenish

* Waterton.

shades, head and neck chesnut, belly and vent yellow, bill with white serratures.

The several species have received different names by the Indians, who recognise them by their cry. Thus one kind, the Rhamphastos aracari, is called by the Warraus "Teifari," and by the Macusis "Parupari," while to other ears the cry sounds like the word "Kulik-kulik." The females lay generally two white eggs; the young birds soon assume their natural plumage, but it takes from two to three years for the elaborate and gaudy bill to arrive at perfection.

Fourth Order of Birds, "Gallinaceæ."—Poultry.

The birds of this order have become well known to naturalists on account of their being more or less readily domesticated. They constitute the most prized articles of food as "game" to the enterprising traveller and sporting Indian, who search for them in the tangled mazes of the forests with a perseverance and caution worthy of a higher object of pursuit. It is in vain for the most enthusiastic European to endeavour with a gun on his shoulder to thread the trackless paths of the gloomy forests in search of the numerous game birds which abound there. He will pass whole days without procuring a specimen, the birds are heard to be flying from side to side, they often start at his very feet, and dart over his head, but the leafy shade, and creeping bush ropes and vines defy him to raise his gun or cover his object. The crash of dried branches and withered leaves on the ground as he proceeds warn the alarmed birds, who dart off through the innumerable branches and roots which link the trees together like the meshes of a net; but such is the noiseless step of the Indian that he can steal unseen, and almost unheard, upon the timid bird, and shoot it

either roosting on the branches, or sauntering on the ground. It requires a most practised eye to detect the birds amid the foliage, notwithstanding the large size of many of them, and very often the cunning Indian suspecting his prey near him from its chirping, but not being able to distinguish it, allures it towards him by imitating in the most perfect manner the natural cry of the bird. Once within his reach the bird rarely escapes, as the sportsman seldom fires unless very near his object.

There are several species of wild turkey met with, which may be divided into the large and small kind; of the former, the most generally known is the Powie (*Crax alector*), a name given to it in consequence of the peculiar note it utters, and which sounds like that word. They have been called by different authors "Hoccos," "Curassows," "Mitores," &c.* It is of a beautiful black colour, with the lower part of the belly white, the cera of the bill is yellow; it is about the same size as the common turkey cock. It is a stupid kind of bird, is easily domesticated, and proves excellent eating. In its wild state it is difficult to be procured, owing to its inhabiting the deepest recesses of the forest where it perches, and builds its nest in the trees. The female lays six or eight whitish eggs which have a very thick shell. Other species are met with:—Crax urumutum—Crax tomentosa—Crax erythrorhynchus. Of the smaller kinds there are at least three or four different species which I have seen. The largest is about the size of a small turkey hen, it is of a beautiful greenish brown or black, with red legs and beak. The eyes are remarkably full and lustrous, brown in colour, with dark black pupil. It has red tubercles under the throat and on the beak. Another species has a whitish head,† and is called "Cuyu" by the natives.

* Cuvier. † Penelope pipile.

A third species is of the same colour as the first mentioned, but is smaller in size. This last bird is especially known as the "Maroudi," and is often tamed by the natives and others. Indeed, all these birds are readily domesticated, and roost on the trees in gardens in preference to the fowl-house, where they are sometimes rather roughly treated at first by their more civilised brethren. They are generally called wild fowl by the lower class, and feed on almost anything. The maroudi is very voracious, and swallows indiscriminately any glittering object, as silver thimbles, coins, rings, &c. The species known are

Penelope vel salpiza cristata	Penelope vel salpiza jacer caca
„ vel „ marail	„ vel „ pipile

Of the common turkey (*Meleagris*), Guinea-fowl (*Numida*), and common fowl (*Gallus*), it would be needless to say anything, as in habits, &c., they are the same here as elsewhere. They thrive in this country very well, are subject to few diseases, and fatten readily; but they certainly have not the same fine flavour, except perhaps the guinea-birds, as in Europe. The young are sometimes difficult to raise, in consequence of the depredations committed on them by wild cats, opossums, and other animals, and occasionally very damp weather or heavy rains prove fatal to them, especially to the young turkeys, which require great care.

There are no true pheasants here, but a tribe of birds well known as the Guans, or Yacous of Guiana,* afford a specimen which goes by the name of Hannaqua, or Pheasant of British Guiana (*Ortalida motmot*). It derives this name from the loud sound it makes early in the morning and at night. They are met with in the woods and in the long grass about habitations, where

* Cuvier.

they hatch their young, and make a great noise. These birds may easily be domesticated when young, and feed on boiled plantains, potatoes, seeds, fruit, bread, &c., but refuse corn in most instances.

There are several species of Penelope, or Ortalida, here. The Hannaqua, the most common, is of an olive brown colour, with a long tail with reddish hues at its base. It has a red gullet, which inflates, and a crest of erectile feathers of a bluish black colour on its head. Sometimes the breast is speckled. The other species vary but little from this. Stedman in his account of Surinam says there is a black species there. They are in general about two feet in length, the tail being fully one foot. The females lay from two to five eggs, and build generally on trees.

There is a bird allied to these called the Stinking-bird (*Phasianus cristatus*), which requires some notice here. This very impolite name it derives from a most offensive odour which emanates from it during life, but when dried and stuffed, as proved by a specimen in my possession, there is not the least unpleasant smell. It measures about two feet four inches in length. The head is small, the beak short and crooked; it is of a greenish brown colour, variegated with white above. The front of the neck and tip of the tail fawn-coloured; the belly chesnut. The head is ornamented with a tuft of long and slender feathers. It is found in the marshy lands, and feeds on leaves and the seeds of a species of arum. The flesh, on account of its odour, is used as a bait for fish.

There are, at least, four or five different species of the Tinamou, or Maam (*Tinamus*), which birds are considered among the choicest game we possess. They vary in size from a pheasant to a partridge, having a small head and long slender neck. Their wings are very

short, and they have scarcely any tail. The general colour of the plumage is a mixture of olive-brown and greenish-black. They fly badly, but run swiftly. They are met with in the forests or in long grass, and feed on fruit and insects. They deposit their eggs in holes on the ground, and the young ones run after the mother just like chickens. The largest species roost on trees, although the structure of the feet, as pointed out by Mr. Waterton, would hardly lead one to suppose that this could be effected. It appears that the feet do not grasp the branch on which the bird rests, owing to the toes, especially the hinder ones, being too short; but by means of scales on the back of the legs, the bird contrives to secure itself.

The maam has a singularly loud and plaintive note, which at sunrise, sunset, and also during part of the night may be heard at a great distance. The largest species lays a great many eggs of a bluish green colour; the smaller species lays only one or two eggs, which are of a brown colour. The flesh of the maam is excellent food, and has a remarkably dense, hard, and compact appearance. The species are—

Tinamus vel crypturus variegatus
„ vel „ noctivagus
Tinamus vel crypturus subscristatus

The bird called Douraquara, or partridge of this country, is very different to the one of Europe. It is somewhat of the same size, but is of a darker plumage, and is a stouter bird. It has red eyes and legs, and the colour of the plumage is olive-brown. It does not fly in coveys, or feed in the open country, but runs stealthily about the forests, where it hides in the trees and brushwood. It is, in consequence, very difficult to shoot; the flesh is firm, white, and dry. It is not easily tamed, and will not breed in a state of bondage.

There are three different species of the Quail in British Guiana, one small and two large, but they are rare. One specimen which I have seen was about the size of the douraquara. Its colour speckled grey, brown, and black; legs yellowish; tail very short and square, back short, thick, and slightly curved; eyes black. It had a crest of long feathers on its head. This bird was domesticated, and had been living several years in a cage. It was considered weatherwise, as it used to crow at the approach of storm or rain. In fine weather it had quite a different note. These birds are generally found in the Savannahs in flocks of a dozen or more.

Of the family of Pigeons (*Columbæ*) there is a great variety in this country, which vary in size from a sparrow upwards. The number of species must be twenty, if not more, of which I have seen about twelve. These birds are met with at different seasons, except the ground doves, which are to be seen all the year round. Some pigeons feed in flocks in the woods, attracted thither by the ripening of certain fruits, such as the wild fig, &c. Others fly across the country singly or in pairs during certain months, generally from September to December. Some of the larger kinds dwell more or less constantly in the vast forests, where they appear to feed, lodge, and breed. Without entering upon any account of domestic pigeons, of which great numbers are kept both in town and country, I shall here only allude to some of the most remarkable of wild pigeons. Of these, that known as the Itaribische pigeon deserves first notice. These beautiful birds are chiefly met with up a creek in Essequebo called the Itaribische. This large creek is a tributary of the river Essequebo, and is of great size and beauty. Its waters are dark but translucent, and deriving their origin many miles in the interior, meander through the most lovely scenery—sometimes swelling out into a large

lake amid open savannahs, or flowing through rich forest land and sandy hills, at times so shaded and encroached upon by overhanging trees and flowering shrubs as to be almost impassable. It is in this romantic neighbourhood that the pigeons resort about the month of October, to feed on the berries and plants of particular trees. Their plumage is reddish brown on the back, wings, and tail; sides and belly parti-coloured grey and brown; neck and breast speckled white; beak and legs red. The male is distinguished by its more brilliant plumage. These birds are very shy, and require to be severely wounded before they drop.

The common wood-pigeons are also pretty birds, seen frequently in the forests, where they startle the traveller by their rapid flight. They resemble somewhat the same description of bird in Europe. Another species of large pigeon frequents the woods at certain seasons, where they may be seen resting on the withered branches of trees. They are of a light brown colour, with various patches, and are considered excellent food. The pigeons in general here build their nests of wood, on the branches of thick trees.

The Doves may be divided into the large and small, the latter being very common, and known as ground doves, feeding along the roads and in gardens, where they become more or less tame. There are three or four species of this small but beautiful dove, which are variously covered grey, brown, slate, or lead colour, with black spots. They are about the size of sparrows, and construct their nests of coarse grass, loosely arranged in a circular form, but inside the greatest pains is taken to make them comfortable, being generally woven with fine grass and delicate fibres. The female generally lays two eggs of a whitish colour. These birds feed on grain and

small insects. There is a large species of dove much like these small ones in colour and general appearance.

Of the pigeons and doves a few species only are enumerated by Richard Schomburgk in his "Reisen in British Guiana:"

Columba speciosa	Columba talpacoti
„ rufina	„ jamaicensis (wood dove)
„ passerina (earth dove)	„ martinico (do. do.)

We come now to the fifth order of birds, called the Waders (*Grallatores vel natatores*), whose habits and structure lead them by instinct to marshy spots, and the neighbourhood of the sea or river; and as there is no lack of water in British Guiana, the birds of this order abound in great numbers and variety. They line the sea-coasts and beach, and are daily seen in almost every trench and mud-flat in the country. Some of the most useful kind, such as the snipe, plover, sandpipers, and others, migrate hither occasionally in such numbers as to afford the sportsman the most successful amusement.

Of the Plovers (*Charadrius*), several species are met with at different times of the year; but towards the end of the long dry season, or about the months of September and October large numbers of the black-breast Plover (*Charadrius virginicus*) visit the marshy spots along the coasts. The flocks of this bird are sometimes incredibly numerous, and numbers of curlews, long-legs, or green-shanks, sandpipers frequently accompany them, so as, occasionally, to darken the air by their presence. Upon such favourable occasions they may be sometimes slaughtered in thousands, and are frequently knocked down by the labourers with sticks or other weapons. Gradually, however, their numbers disappear, the flocks become less frequent, and about November not a bird is to be seen. Their plumage and habits are too well

known to render further description necessary. The species, however, are—

Charadrius vel œdicnenus bistriatus	Charadrius crassirostris
„ vel vanellus cayennensis	„ azaræ
„ vel hoplopterus cayanus	Strepsilas interpres
„ virginianus	

I do not know of any birds here which, strictly speaking, can be called cranes, but many approach in character this tribe of birds. Perhaps the bird which most deserves notice is the Trumpeter, or "Warracoba" (*Psophia crepitans*), according to the Indians, both which names it derives from the loud sound it produces. The anatomy of this bird readily explains the cause: there is a considerable development of the trachea, or wind pipe, which is prolonged downwards as far as the anus, and then curves upwards to enter the chest, from which circumstance also some have imagined that this loud note was produced, "a posteriori."

The plumage of this bird is strikingly beautiful, being of a glossy bluish black; the breast is bluish, with metallic lustre; some grey feathers hang down from the back; the tail is short, whilst the legs are very long; the bill is short and curved; the eyes reddish. These birds are seen singly, or in flocks, in the woods, but are easily domesticated, and are much esteemed for the table. They are very frolicsome, and will jump up, reel about, and roll over on the ground in a most ludicrous manner, giving now and then a loud blast on their natural trumpet. They feed on grain and fruit, and are often seen in poultry yards, where their singular habits attract attention. They build their nests on the ground.

Another curious bird of this tribe is the Sun-bird (*Ardea helias*), called by the Spaniards "tirana;" it is often met with on the banks of the rivers, and is readily domesticated; it is about the size of a woodcock. Its

plumage is like that of a butterfly, being speckled brown, grey, yellow, red, and black ; when distending its tail and body it generally presents a most ludicrous appearance. It has long legs, and a slender bill, but its general appearance is not that of a wader. It is very agile and sprightly, moving its tail about like the pendulum of a clock.

The Imperial boat bill (*Cancroma cochlearia*) of this country is a most singular looking bird, inhabiting the marshy districts ; where, perched on the low branches of trees, they prey upon fish. The plumage varies with their age ; in the adult male the wings and back are yellowish brown ; breast rufous brown : belly whitish, some feathers lead coloured or grey ; head blue at top, with a crest of black feathers ; the bill is broad, and like two spoons in contact, the lower mandible is flattened ; the eyes are remarkably large. The female has no crest.

The Spoonbills (*Platalea ajaja*) are commonly found on the sand banks, and about the coasts and mouths of rivers ; at times they are very common, and afford sport to the shooter.

Several species of Heron are met with here, and the two which I have seen I will describe. The largest species is a tall bird about one and a half feet high, and upwards ; the neck and breast are whitish ; the head black at top ; three long tail-like feathers hang dependent from head to back ; the wings are lead coloured, with some greenish black feathers ; the tail is also lead coloured. This bird is well known here as the "quaak," or night heron (*Ardea nycticorax*). The smaller species has a broader beak than the other ; its plumage is much the same, being ash, or lead colour, mixed with black and white ; the back of head, top of neck and throat are black ; a white patch runs backwards from the eyes ;

a few long slender feathers extend backwards from the head. These birds appear morning and evening, and feed on fish, shrimps, insects, &c. Waterton also mentions the blue, the lazy, and the brown herons; but I have never seen them.

Of the Bittern, or Tiger-birds, (*Ardea tigrinum*) as they are called, in consequence of their tawny and striped colours; there are five or six species, which differ materially in size, the largest being about two and a half feet high, the smaller ones being about the size of a magpie. One species is very common, and almost tame, being seen about trenches, and is called here the "shypoke." It is a stupid, ugly looking bird, has a loud note, and is rarely harmed.

The bitterns feed on snakes, fish, and insects, and are met with in swamps.

The Gauldins are species of the heron tribe, which are familiar to the inhabitants of British Guiana, being seen constantly about the trenches and mudflats, where they sometimes collect in great numbers, feeding on fish, snails, etc. They are sometimes shot and eaten, but have a disagreeable fishy taste. There are two species of gauldin, the white and the grey, which are respectively known as the "*Ardea alba*" and "*Ardea viriscens.*" They are pretty looking birds when watched feeding on the beach, but have a heavy awkward flight.

That beautiful bird, the snow-white Egrette (*Ardea egretta*) is also an inhabitant here, but frequents the interior; its lovely plumage and fashionable plume of feathers are too well known to require description. The other species known are

Ardea cocoi	Ardea cærulescens	Ardea scapulari	Ardea pinnatus
„ leuce	„ leucogaster	„ brazilicnse	„ pileata
„ nivea	„ agami	„ minor	„ violacea

There is a bird here called the heri, which is of the stork tribe. It has a long feathered neck ; small head, with long, thick, and straight beak, and red patch around the eyes, which are brown ; plumage of body dirty white ; wings and tail black. It stands from four to five feet in height, and is met with in savannahs and swampy places, where it preys on fish, snakes, &c. It utters a peculiar cry like the stork.

Another species, the maguari (*Ciconia americana*), frequents the banks of rivers, feeding on fish and reptiles. It is of a white colour, with black wings, which often measure six feet across. The largest species, however, is the "jabiru"* (*Mycteria americana*), which stands about six feet in height, and sometimes weighs 20 lbs. or more; it has a bare head and neck of a black colour; the beak is also black, and measures about sixteen inches in length, being curved upwards; the young birds have a tuft of feathers at the back of the head ; the colour of the plumage is a dirty white; it has a red patch around the neck, hence one of its numerous names "collier rouge;" the feathers are long and downy, part of the wings is black. On account of its black head it is known here as the "negro cop." The young ones are grey in colour.

Another species of stork (*Ciconia*) is occasionally met with. It is known here as the blue stork, and is called by the Indians "honouri." It is about three feet in length when erect; the head is of a bluish black at top, with long pendant feathers; the neck is white at the sides, but of a bluish white in front ; eyes black with yellow borders ; the beak is of an orange yellow,

* The word "Jabiru" in the Guarani language signifies inflated, and is applied to this bird on account of its flaccid neck, which is capable of distension. It is called Tararamu by the Macusis, and Mora Coyasipa by the Arawaks.

with light blue membrane at base; the body is white; the wings lead coloured, and tipped black; long pendant feathers hang from the body; the legs are of a brownish colour. A wounded bird of this species was lately brought to the city, and was placed in a trench, secured by a rope; it fed on fish and reptiles, but soon managed to effect its escape.

The wood pelican (*Tantalus loculator*) is occasionally seen in swampy marshes, and about the river sandbanks, where, sometimes in great numbers, they may be seen feeding along with the storks and cranes, whose habits they partake of. It is a large bird, about the size of a stork, but more slender; the skin of the head and neck is naked of feathers, and is of a blackish colour; the bill and feet are also black as well as the quills of the wings and tail.

Of the long-billed waders there are numerous species here. First in beauty and size are the birds so well known as the "curri-curris," or scarlet curlews (*Ibis rubra*), of which there are two kinds, distinguished only by the colour of the beak, which in the one is black, and the other whitish. The plumage of the adult bird is magnificent in the extreme, being of a rich scarlet colour all over, with the tips of the wing feathers jet black. When young the plumage is blackish grey, changing gradually to a lovely white when they are ready to fly, the scarlet hue being acquired with age. The beak is long, slender, and sabre shaped; the eyes bluish grey; the legs red. These splendid birds are frequently seen flying about in flocks near to the city, and along the coasts; they are, however, most plentiful about August and September, when they are also in finest plumage. They fly in general very high, and the phalanx is wedge-shaped, the old birds leading at the front. When seen in fine weather the effect is most striking, the waving lines of

scarlet float in the air like the pennon of a war vessel, and their graceful evolutions when alarmed, added to the glittering hues reflected in the sun-light, are very beautiful. They are difficult to shoot, being very shy and constantly on the alert. There is a species of curri-curri known here as the fresh-water curlew, it is a splendid bird of a greenish olive and bronze colour ; it feeds on worms in creeks, where it is generally found towards night. The common curlew (*Numenius phæopus*) derives its name from its cry. It is smaller in size than the curri-curri, which, except in colour, it otherwise resembles. The wings, head, and neck are grey ; breast and belly whitish ; eyes black ; beak long and curved. Mr. Waterton mentions a species of black curlew, with a white bar across the wings, but I have never seen it. The whistling curlews are to be met with at all times of the year, along the coasts, but are most plentiful in September. They fly singly, or in flocks, and are much esteemed for the table. The following species of Ibis are also known:

Ibis vel tantalus infuscata
„ vel „ cayennensis
Ibis vel tantalus oxycercus
„ vel albicollis

During the rainy seasons, or shortly after, great numbers of snipes (*Scolopax*) may be met with in the marshy districts. They are, in every respect, similar to those in Europe, and afford great sport to the sportsman. The woodcock is also occasionally seen, but is by no means so common as the snipe. Allied to the snipe is a species of long-shanks, which is also found in swamps; the breast is whitish ; the head and wings black ; beak slightly curved upwards.

The species known are

Scolopax paludosa
„ frenata
„ grisea
Scolopax semipalmata
Hypsibates nigricollis

The sandpipers, or sea larks (*Tringa*), are small active little birds, which are constantly seen along the trenches, rivers, and coasts. They sometimes are met with in flocks of thousands, and are so densely packed as to enable the sportsman to kill upwards of a hundred at a single shot. They are excellent eating; there are several species:

Tringa flavipes	Tringa semipalmata
„ melanoleuca	„ arenaria
„ cinerea v. canutus	

There is a very pretty bird known here as the spurwing (*Parra jassana*), which is also found in marshy spots, where, with the long toes peculiar to their tribe, they walk rapidly through the long grass of the fields, or over that which floats on the water. The plumage is varied and beautiful; the back and wings are of a rich chocolate colour; head and neck black; beak yellow; breast dark; there are some rich yellow feathers on the wings; it has a red wattle on the bill; they have two characteristic spurs on the wings, hence their name, as also that of surgeons, which has been given to them. They are shy birds, and have a sharp cry; they build their nests on the leaves of some water plants; the eggs are somewhat larger than those of the pigeons, and are of a yellow brown colour, scrawled over with black; when wounded they will hide their heads to escape detection.

A species of bird (*Kamichi*) is very much like the spurwing, but is much larger, and is found in the inundated places of the interior. It is called "anhima" in Brazil, and "camouche" at Cayenne.* It is of a blackish colour, spurred at the wings, with a red shoulder knot, and has a kind of horny caruncle on the head. It feeds

* Cuvier.

on plants, seeds, and insects. It has a loud cry, "Hammi, hammi," and is called also the horned screamer. It stands two and a half feet high, and the spurs on the wings are about one inch in length.

Several species of rail are found here; one the land rail (*Rallus crepitans*) is now and then seen in trenches, and makes a loud noise when surprised. It has long bare legs with scanty plumage of body, its colour yellowish grey, the tail is short, its flesh is tough and not worth eating. Another species of rail is about fifteen inches in length; head and neck bluish purple, throat pale, back and wings greenish-brown, breast and belly chocolate coloured, beak greenish-yellow, under wing feather and coverts black bars across chocolate ground.

Other species are known:

1. Crex mustelina
2. „ schomburgkii
3. „ galeata
4. „ martinica
5. Ardea scolopacea
6. Gallinula mangle
7. „ ruficollis

There are two species of water hen, one is greyish in colour. The common water hen (*Fulica chloropus*) is a pretty-looking bird about twelve inches long, with small head and short tail; it frequents marshy spots, and feeds on fish. Its plumage is a dark slate colour, except about the thighs and tail, where there are white feathers; it has a red caruncle on the forehead, the base of the beak is red, and the tip yellow; wings and tail greenish brown, legs brownish, but above the tibia reddish.

Of the seals, or true coots, there are several species, but which are not sufficiently well known to me to warrant description.

The flamingo (*Phœnicopterus ruber*) can scarcely be considered as a bird of this country, for although occasionally seen flying across the interior, it scarcely pays us a visit worth recording.

Of the sixth and last order of birds, the palmipedes, or web-footed species, there is little new to communicate. They skim the ocean here as in other parts of the world; the long necked-divers and heavy-looking gulls are for ever sailing slowly over the waters in search of prey, whilst inland, the ducks, and their variety, lead their vagrant life in comparative security. Swarms of sea swallows skim along the borders of the coast, and it is not a little remarkable that all these birds are for the most part constantly seen flying eastward.

There are three or four species of gulls, some of which are known here by the name of fishermen. Two of the species are large and one small. The latter is of a white colour with dark wings. One large species is whitish and the other grey. The beaks are long and curved. Their flight is slow and heavy; they are frequently to be seen flying along the coasts, feeding on fish and putrid carcases, and building their nests on the mud flats or sandy banks.

There is a fourth species of gull (*Rhyncops nigra*), about the size of a small duck, the head and wings are black; the breast, belly, and throat white; the beak is peculiar, resembling scissor blades, the upper one being shorter than the lower, and having a narrow grove which receives the sharp blade of the lower mandible. They are chiefly seen in flocks up the rivers, feeding on small fish which approach the surface of the water. They are called scissor-bill gulls by the inhabitants, but the Indians term them "darra-darra." They live and breed about sand banks.

The sea swallows (*Sterna magnirostres*) are found along the coasts, and sometimes about sandbanks up the rivers. They lay their eggs in these sands, generally two or three in number.

Palmipedes.—Topiplamatæ.

The frigate-bird (*Pelecanus vel tachyptes aquilina*) is occasionally seen flying along the coasts, it is of large size, with forked tail and short feet, its colour is black, with patches of white about the neck and throat. One species which I examined was of a bluish black colour, with tints of bronze; the eyes were of a dark colour, the throat was bare and served as a kind of pouch for fish, the beak was crooked and was five inches in length, the legs were very short and feathered to the toes; the length of the bird was thirty-six inches, and it measured eighty inches across the wings. Another bird called here also frigate-bird, is very like the other, but has a white head, neck, and breast.

I once saw a bird picked up by some sailors, which very much resembled the common booby (*Pelecanus bassanus*). The plumage was of a dirty-white colour, and was very dense; the legs were short and web-footed, the bill long, sharp, and straight, except at the apex, where the upper mandible was slightly crooked.

The pelican, (*Pelecanus fuscus*) is met with off the coasts, but does not breed here. It is of a whitish plumage, with a reddish beak.

The cormorant (*Haliens vel procellarria braziliana*) is found on the coasts, and also about the cataracts, where they may be seen sitting in small companies on the rocks and trees about the river, where they appear to build their nests. They prove very destructive to fish, on which they chiefly feed. The Indians call them "pareka."

The divers, or darters (*Plotus*), are allied to the cormorants, but are easily recognised by their long snake-like necks and small head, with slender, straight, and pointed bill, serrated at the edges. There are several

species in this colony. One species, called the black-bellied darter (*Plotus surinamensis*), is found up the rivers; it is often met with in pairs. Its plumage is black and white; it is an excellent diver, and is called by the Indians "yawiwa" and "oranih."

Another species of darter (*Plotus anhinga*) is also found in similar places to the other, alone, in pairs, or in small companies. Its plumage is black, but the females and young ones are of a lighter colour, generally greyish brown. It is a very timid bird; if alarmed it stretches its long neck out, and gazes about, and if the cause of danger appears imminent, it plunges into the water and dives for several minutes, preferring this mode of escape to flying, at which it is not very apt.

An allied species (*Colymbus dominicus*) is found in small societies in the marshes and savannahs about the coasts. The female builds her nest of grass and sedges, and lays two eggs.

The wild ducks of this country are numerous, and of various kinds; they are to be found throughout the colony, but abound especially in swampy places. The most common are the vicissi, or vis-sisi duck, the muscovy, and the common duck.

The vicissi ducks (*Anas arborea vel dendrocyna viduata*) fly about in flocks of twenty or more, and are frequently seen even in the neighbourhood of town. The plumage is striking and very beautiful, especially when the birds are on the wing. The head is reddish; the forehead pale; the breast of a deep vinous red; the wings white, green, and black; the legs are somewhat long, and the feet are so constructed as to enable them to perch on trees, where they build their nests. They have a peculiar whistling cry, "vicissi," or "vis-sisi." They are easily domesticated, and associate readily with the other breed of ducks; when any of their number is wounded,

the rest of the flock fly around their injured comrade, and by their sympathising cries seem to urge to flight. The tamed ones are sometimes used to decoy their wilder brethren; by their cry they attract the latter to settle down in the water, where they become an easy prey to the sportsman: they are excellent eating. Upon one occasion a labourer to my knowledge shot upwards of a dozen with a single barrel, but he only secured seven out of the number: a large flock had alighted on a decayed tree close to the water, and when the fatal shot arrived among them some twelve or more fluttered about *hors de combat* in the water, the wounded ones escaped by diving. These birds destroy guinea corn and other grain. There are several species of this vicissi duck.

The wild muscovy (*Carina vel anas moschata*) is larger than the vicissi or vis-sisi, and is of less gaudy plumage, being of a brownish black colour. I have never seen them in large flocks, but generally three or four are together; they alight on the loftiest trees, where their large bodies and outstretched necks present a singular sight. They build their nests on high trees, and when the young ones are sufficiently grown, the parents carry them gently down to the swampy spots to begin their education. Whilst travelling up the creeks, I have frequently seen these tempting birds perched on the branches of trees, but as they generally choose very swampy ground with high grass they are not easily approached with the gun. This bird (*Anas vel carina moschata*) is also called here the musk duck from its peculiar smell, the plumage varies, some being glossed blue or green, the head is slightly tufted, and the legs and feet are reddish. The eggs are of a greenish hue. The Macusis call them "mairva," and the Warraus "oumeh."

There are several other varieties of the duck family, but I am unacquainted with their haunts and habits; I

have seen, however, three or four small-sized ducks, whose plumage was grey and parti-coloured, and which had a general resemblance to the common vis-sisi in habits and appearance, but were somewhat smaller.

The names of some are Dendrocygna vel anas autumnalis; Querquedula vel anas braziliensis; Dafila vel anas bahamensis.

The varieties of the common duck (*Anas domesticus*) are to be met with in tolerable numbers, and thrive very well. The common goose (*Anser communis*) and other varieties are also to be found, and seem well adapted to the climate, but there is perhaps greater difficulty in raising the young than exists in other countries.

MAMMALIA.

GENERAL REMARKS—THE QUADRUMANA—MONKEYS, THEIR HABITS—TWO CLASSES OF MONKEYS—AN ACCOUNT OF THE SEVERAL SPECIES—THE CARNARIA—HABITS OF THE ANIMALS BELONGING TO THIS ORDER—THE BATS—THE HEDGEHOG—THE CRAB DOG — THE COATI—THE SKUNK—THE OTTERS—THE DOG—THE TIGER CAT, AND ITS VARIETIES—THE OCELOT—THE JAGUAR.

THE MARSUPIALA—THE YAWARRI, OR OPOSSUM—THE RODENTIA—THE SQUIRREL —THE WATER HARE—THE AGOURI—THE ACONCHI—THE LABBA, OR PACA—THE GUINEA PIGS.

THE EDENTATA—THE SLOTH—THE ARMADILLO—THE ANT-EATERS—THE PACHYDERMATA—THE PECCARI—THE BAKKIR AND OTHER WILD HOGS—THE COMMON HOG—THE TAPIR, OR MYPOURI—THE RUMINANTIA—THE STAGS—THE GOATS—THE SHEEP—THE CATTLE.

THE CETACEA—THE MANATI, OR SEA COW.

THE animals belonging to the class Mammalia met with in British Guiana are not very numerous in point of variety, and whatever might have been their numbers previous to the colonisation of this country, they are every day becoming more scarce, and are receding before the advancing step of civilisation.

To acquire an accurate knowledge of their haunts, their habits, and their numbers, the naturalist would have to leave the sea-coasts and river banks, and plunge boldly into the extensive forests and wide-spread savannahs and mountains of the interior, and to make them his companions by night as well as day. Many of the

mammalia are frequently to be seen, however, at the back of estates, and especially on abandoned or neglected plantations, which abut on the bush or forest, for here lurk the tiger tribe and their victims, such as deer, acouris, labba &c.; and even in the city itself the inhabitants have often the opportunity of learning practically the predacious and cunning habits of many of the smaller animals.

It has never been my lot to travel very far into the interior, much less to have had the opportunity of studying, or even seeing, all the objects which are now to arrest attention; but it has, however, been my good fortune to meet at different times with a tolerable number of specimens, both in the living and dead state, and I hope that I have lost no opportunity of making myself as familiar with them as circumstances would allow.

The animals which constitute the class mammalia stand at the head of the creation, in consequence of the superiority evinced in their physical and mental organisation; and, as a matter of course, man assumes the first rank among them, about whom, however, it is not my intention to speak. Neither will it be necessary to define particularly the structure of the animals seen here. Far better descriptions than I could possibly give will be found in most zoological works, especially those of Cuvier, Buffon, Goldsmith, and Grant. Like to man, animals move upon the face of the earth, or swim upon its waters. Like him they are viviparous, and after birth are nourished by milk (deriving their name of mammalia, or mammals, from those organs which in the female are the fountains from whence flow our earliest nourishment).

I pass over the first order of mammalia, viz., the bimana, which includes the different varieties of the human race, to consider the second order, the quadru-

mana, which comprises the monkey tribe, and which are pretty extensively represented in this country.

There are no apes or baboons, or what are known as true monkeys, to be met with here. The several species in this country are distinguished by their not having cheek pouches, and by the absence of callosities on the buttocks. They have, however, long tails, which in several species, as will be noticed, are prehensile, or capable of being twisted round the branches of trees, so as to support their weight. They have, moreover, thirty-six teeth in their jaws, being four grinders more than the usual complement of teeth in the monkeys of other countries.

They abound in the forests, where they may commonly be both seen and heard by the traveller.

They are gregarious in their habits, especially those of the smaller kind. The different species do not congregate in the same troop—each species has a corps or regiment of its own. They are the lords of the forests, living on high branches of lofty trees, where they consider themselves to be tolerably safe, except from the hunter's gun or Indian's arrow, and the ever dreaded wiles and stratagems of their greatest enemy the snake, who disputes with them the dominion of the wooded world. The snakes destroy their young; they coil themselves around the thick stems, and await a truant young monkey, or glide noiselessly among the leafy branches to dart suddenly upon young or old, to the immense consternation and jabbering of the whole monkey family.

Monkeys here feed in their wild state on seeds, fruit, roots, plants, insects, wild honey, and other sweets, but when tamed can be made to eat almost everything, and are remarkable for their enormous appetites, which, apparently, never leads to corpulence or obesity; for who ever saw a fat monkey? Their spare and active

forms are the result of their incessant muscular action. They are very salacious, and from their indecent and disgusting habits prove objectionable as domestic pets. The females generally bring forth one at a birth, and the young monkey, as might be expected, generally proves a very troublesome little fellow. Some of the females carry their young on their backs, others under their arms. If wounded by the poisoned arrow of the Indians, some species withdraw at once the fatal weapon, but soon fall after the working of the poison.

There is considerable confusion still existing in reference to the kinds of monkeys which are met with in British Guiana, different names having been given to the same animal by different writers, and several of our varieties have not to my knowledge been accurately defined, so that in the following description of them I do not pretend to convey anything very original or learned, but simply to state what I know about the species of this country, whether acquired by personal observation or otherwise; and the same remarks will apply to the rest of the mammalia here noticed.

I will divide the monkeys of this country into two classes:

1st. Those with tails prehensile.

2nd. Those with tails not prehensile.

There are in all, perhaps, about twenty varieties.

One of the most common kinds of monkey with prehensile tail is called here the howling baboon, or red howler (*Mycetes seniculus*). It deserves its name of howler, but is not a baboon. The terrible howling noise it makes is produced by a kind of bony drum which is lodged in the throat, and may be felt and seen from the outside. This drum is simply an osseous expansion of one of the bones of the larynx or windpipe, and the sound of the voice reverberated through its expanded

cavity produces the sound whence it derives its name. This monkey is somewhat larger than a fox, and is of a reddish-brown colour with long hair.

It lives in large troops in the woods, and is often shot and eaten by the Indians.

By some this is considered the preacher monkey, from the fact of its being regarded as preaching and not howling, or as well as howling in the wilderness; but the preachers have been described as black, which this is not.

The most common description of monkey with prehensile tail met with is that known as the brown, or weeping monkey (*Simia apella*), so named from the plaintive sound of its voice..

It is seen varying considerably in size and colour. The shades of brown approach in some instances almost to black, whilst in others they are more of a dirty-white. These monkeys are great gluttons, and are very salacious, notwithstanding which they are commonly seen in and about the houses of Georgetown. They are called by some Sajou, and belong to the Sapajous.* They are frequently seen in the country climbing up the trees, and although readily domesticated are never to be trusted. When a child I was very severely bitten over the body and limbs by one of these animals, and the cicatrices remain to the present time. I had been teasing it, when it sprung upon me and threw me down, and commenced operations with its teeth, much to my alarm.

The Capuchin monkey (*Simia capucina*) is another species closely allied to the other, but is distinguished by the border of the face being paler instead of darker than the rest of the body, as is observable in the common brown monkey. Its habits and haunts are the same.

* Cuvier.

Another species allied to this is the Cebus olivaceus, or olive monkey.

The horned or tufted Sapajou (*Simia fatuellus*) belongs also to this tribe. It is of a blackish-brown colour with the borders of the face white, and derives its name from two tufts of hair which project above the eyebrows.

A large kind of monkey with prehensile tail is often met with in the forests. It is of an entire black colour with long loose hair; the colour is paler over the ventral surface; its tail long and hairy. The face is more or less naked, with a red membrane encircling the eyes. It belongs to the tribe of spider monkeys, and is here known as the Beelzebub monkey (*Ateles Beelzebub*).

Another species very much like the above is also common, and has been termed the Quata, or Coaita (*Ateles paniscus*), but is distinguished by its flesh-coloured face. The whole surface of the body is black, no whitish appearance being visible about the belly. This is, perhaps, the most intelligent monkey of this country, the natives having been long in the habit of training them to their service, and making them learn to fetch and carry like some dogs. They have a peculiar manlike appearance, and grow to the height of about three to four feet. They are seldom seen in large societies, and are indolent in their habits.

There are two or three other species of spider monkeys, or ateles, common here. These, like the others, are readily known by the absence or mere trace of thumbs on the anterior legs or arms. One, Cajou, the Ateles ater, has a black face as well as body, but in character and conduct they approach one another so closely as to render separate notices unnecessary. They inhabit the forests common to this country and Brazil; are gregarious, tractable, sportive, and fond of travelling about, and are said to use their tails to link themselves

together when desirous of throwing a bridge over either water or land.

The monkeys whose tails are not prehensile have been termed Sakis. By Buffon they were named Sagouins and by others have received the generic names Callithrix and Pithecia.

There are several varieties of sakis met with here. They are easily recognised by their long bushy hair and tails; they are sometimes called fox-tailed monkeys; indeed, in size and general appearance they are not unlike that animal. Their faces and heads are small; the teeth and mouth project in a remarkable manner. They are of a morose and savage disposition, and are very noisy and quarrelsome in the woods.

One species with which I am acquainted is the black saki (*Simia vel pithecia satanas*). It is about three feet long, including the tail, and is of an entire black colour with long bushy hair. The female is of a greyish hue, and sometimes brownish red. The breast and belly in both are scantily furnished with hair. This animal is also known as the Cuxid.

The Yarkee is the name given by some to the white-faced saki (*Pithecia vel simia leucocephala*). The colour of the body is black, but the face has greyish-white hairs on the forehead, temples, and cheeks; some reddish grey hairs are seen over the eyebrows. The lower jaw, nose, mouth, chin, and a small space round the eyes are naked and membranous. The female is much lighter in colour, indeed it is of a greyish brown rather than black.

The red-bellied saki is another species common here, it is described as the (*Pithecia vel simia rufiventer*). The colour is brownish, but on the belly it is more or less red; the hair on the crown separates and falls forwards giving it a peculiar appearance. It is about the size of a

cat, and has a very bushy tail; the ears are round and flat.

Another species is known as the red-bearded saki (*Pithecia vel simia rufibarba*),* from the fact of the beard about the face being of that colour. The colour of the upper part of the body is brownish black; of the under part light red.

There is another species of a brown and yellowish grey colour, which has a circle of ochreous yellow about the face, hence named yellow-headed saki (*Pithecia vel simia ochrocephala*).

Another species, the (*Pithecia chiropotes*), is limited in its range, and is seldom found except about the river Rupununi where it may be seen in small societies.

Of the small squirrel-like monkeys with tails not prehensile there are several varieties, some of which are common, and others rare. They have fewer teeth than the others. Of those which are somewhat rare, may be mentioned the striated monkey and the pinche. The former, the ouistiti (*Simia vel hapale jacchus*), is of a greyish brown; the tail and part of the back are annulated brown and white; the head is reddish with a white spot on the forehead, and tufts of white hair about the ears.

The pinche (*Simia vel midas œdipus*) is of a grey colour studded with brown, tail slender and reddish; on the head there are some long whitish hairs hanging behind the ears. This little animal is very rarely seen, but has occasionally been met with in the Guianas.

Both these monkeys derive their name of ouistiti from the peculiar sound they make, which resembles that word when the syllables composing it are uttered.

The most common and interesting of the small monkeys is that pretty little animal so well known here as

* Kuhl.

the sakawinki (*Callithrix vel simia sciurea*). The body is covered with close downy hair just like fur of a golden colour, the head and feet are orange, the tip of the nose black, tail long and tipped black. It has a small round head and hairy ears. From its size, its activity, and sportive habits it has been termed the squirrel monkey, being not unlike that nimble little animal.

In the woods they may be seen in hundreds skipping from bough to bough, and I have often seen them make the most prodigious leaps, jumping over a wide road which had been cut through the forests in Essequebo, and on each side of which were lofty trees, their branches occasionally meeting overhead, and along which these squirrel monkeys dash fearlessly in a sort of "follow my leader" game, and bound off at times from tree to tree a distance of several yards across, when they may sometimes be knocked down with sticks or stones. They have a sharp twitter or cry, and are often made pets of by ladies and children, but it is only when caught young that they can thus be domesticated; the older animals do not readily bear confinement, and generally die of chagrin.

A bushy-tailed species, a large-eared ditto, and another with a black and white face have been described,* but with these I am not acquainted.

The other species of small monkeys belong to another tribe (*Midas*, or *Tamarin*).

Perhaps the most elegant of the smaller monkeys is that beautiful little animal known as the marmoset (*Midas rufimanus*), or red-handed tamarin. It is of a splendid black colour, variegated in some places with grey; the hands or feet are orange red. They live in large societies in the interior, and their voices resemble in sound the cries of birds. They are seldom tamed.

* M. Martin.

The marakina, or silky tamarin (*Midas rosalia*), is another species of this family. It is of a yellowish colour with reddish hues, and has a sort of mane upon the neck; the tail is long and bushy.

The black tamarin (*Midas ursulus*) is also, I believe, occasionally seen here, but is very uncommon; it is, as its name implies, of a black colour with reddish wavings.

A species of nocturnal monkey, the douroucouli (*Aotes vel nyctipithecus trivirgatus*), has been met with by Humboldt and others in the neighbourhood of the river Cassiquiari. It is of an ash or grey colour above, fawn colour below, with a black line on the forehead, and on each temple; length of body about nine inches. It sleeps all day, and prowls about at night, feeding on birds and insects. It is like a cat in appearance, and is ferocious and not easily tamed.

The third order of Mammalia comprises the carnaria, or those which feed on flesh, including a number of animals with the three kinds of teeth, and which are more or less unguiculated.

As a sort of link in the chain between the monkey tribe and other animals, the bats have been placed by naturalists, and in this country several interesting species are found. Bats are generally considered as nocturnal creatures, but although chiefly aroused to activity towards sunset and night, they are nevertheless far from idle during the day. I have repeatedly seen them flying about inside of houses, especially in gloomy places, during the daytime. They flew along so noiselessly that you could not hear their movements, they were evidently in quest of food for their young ones, who were perched in rows with their heads hanging downwards, and supporting themselves with their feet hooked in between the boarding of the roof. They are not always afraid of the human presence, for several

persons were living in the rooms covered in by the roof which these bats inhabited; whether the gloominess of the apartment made them believe that the sun had gone down, I do not know, but certain it is that they fly both night and day, and may frequently be heard as well as seen twittering during daylight. They are great torments to householders and others; there is scarcely a house the eaves or roofs of which are not infested by bats, whose dung, consisting of little black pellets, accumulates to such an extent as to form large heaps.

The larger kinds inhabit the forests, where they may be seen suspended in clusters on the branches.

The smaller kinds take to church steeples, houses, hollow trees, and when seen flying along can scarcely be distinguished from the small black swallows, which in many respects they resemble. I have seen hundreds dart out towards sunset from the holes in the cathedral steeple, and also from decayed trees, when visited even during daytime; and from their size, colour, mode of flight, and habit of chasing insects, I was not always certain whether they were swallows or bats. Some of these animals are well known to suck the blood of persons asleep by inflicting minute wounds on the toes and other parts of the body, and the smaller species are in the habit of thus bleeding birds and animals. So delicately is the operation performed, that the victim is generally unconscious of it until, on awaking in the morning, he finds the sheets discoloured with blood. The hemorrhage, if a large vein is opened, is sometimes pretty copious, but when the toes are attacked the quantity of blood lost is trifling, and the wound soon heals. I have seen instances of such bites, but they were principally in children, and were not followed by any evil consequences.

I only know of four or five different kinds of bats in British Guiana. The vampire bat is the largest (*Phyl-*

lostoma spectrum), measuring two or more feet across the wings, and distinguished by a peculiar leaf-like appendage over the nose; its colour is brownish-grey or reddish.

A more common species is the javelin bat (*Vespertilio hastatus*), measuring about sixteen inches across the wings, the size of the body being about four inches long; teeth, twenty-eight.

Another species is the Ph: vel vampirus bidens.

I have also in my possession a species of bat, which I procured from Berbice, of a reddish-brown colour with scarcely any tail, and about eighteen inches across the wings; the number of teeth is twenty-six. I expect this is a species of noctilio. The interfemoral membrane is very large, and the small tail is involved in its upper part.

A naturalist of this country once told me that he had met with a species of bat of an entire white colour; it was somewhat small in size, and had entered a dwelling-house up the Demerara river where he procured it. He had unfortunately omitted to take any particular account of its structure.

A strange species, Molossus fumarius, is also common during the day in buildings and high trees.

A small species of bat is commonly seen by travellers up the rivers and creeks; when disturbed in their haunts they dart out from old trees and water plants, and in numbers six or twelve whirl silently but swiftly about like butterflies, for which they are often mistaken, and after the performance of their mysterious evolutions disappear as suddenly as they came.

Of the insect-eating family of carnaria (*Insectivora*) there are very few varieties here, such animals as shrews and moles never having been noticed.

There is one species of hedgehog (*Erinaceous*) which is peculiar in its structure, and differs materially from the species seen in Europe. It is about eight inches

long, the head is short and thick, the neck and tail are very short, there are no external ears, but two auditory foramina or holes are observable. The legs are three or four inches in length, and the toes are armed with pointed claws. The back and sides are covered with stiff prickles of an ash colour blended with yellow stripes.

The third family of the carnaria are especially flesh-eating animals (*Carnivora*), and offer several highly interesting species to the observer. They are all fierce and savage, and their powerful jaws, armed with sharp teeth, render them very formidable in appearance, even to man.

Of the first division (*Plantigrada*), or those who walk resting the entire sole of the foot on the ground, the crab dog (*Procyon vel ursus cancrivorus*) is an excellent example. This savage animal is about the size of a small hound, and is commonly seen in cane-fields, forests, and trenches. It is of a greyish brown colour; the tail is long, and marked with black rings; the legs are rather short; the hair is rough and wiry; and it has generally a dirty appearance, from its habits of scratching in the mud for crabs and small animals. It is sometimes hunted by dogs, but generally masters them or escapes. It is called by some the racoon crab eater. It most commonly prowls about at night, is an excellent climber, and invades stock and poultry yards, retreating during the day to hollow trees, or holes in the ground. It may be readily tamed.

I believe that the common racoon (*Procyon lotor*) is also an inhabitant of this country, but I have never yet been able to meet with a specimen. Another species occasionally seen is the Nasua solitaria.

Another species of plantigrade carnivorous animal is the coati (*Viverra nasua*); it is of a brown colour, and in

size and appearance not unlike the crab dog. Its habits also are much the same; it climbs trees, and prowls about destroying birds and small animals.

It is spoken of by some as the quacy-quacy, or coati-monde; also kibidi and quassi, and from its long hairy tail has been likened to a fox.

The potto-kinkajou (size of a pole cat), a pretty looking animal, is occasionally seen. It is known as the potto, or kinkagous-Cuvier, and by some is called the yellow macanco (*Viverra vel cercoleptes caudivolvula*). It is about one foot and a half in length. The body is long and narrow, and the tail prehensile; it is covered with a yellowish brown fur, and has a blackish streak along the back; the head is small and round, and the face pointed like the fox. It is of a mild disposition, is nocturnal in its habits, and lives on fruits, honey, &c. It is called by the colonists yamanack; by the Arawaks wawula; by the Macusis yawarri; by the Warraus noari.

A new species lately described by Richard Schomburgk is the Nasua vittata. It is found in the neighbourhood of the Roraima mountains, and in its habits resembles the others of this family.

There are also several other allied species, viz., Galictis vel mustela barbara, resembling a dog in appearance and habits; it feeds on yams, bananas, fish.

Also G. allamandi.

G. vittata; common on the coasts, where it is known as a great depredator among poultry.

Of the digitigrade carnivorous animals, or those which walk on the point of their toes, there are not to my knowledge any true weasles, polecats, or other such animals; their place is, however, amply supplied by several destructive creatures, of which some have already been described, and the others will shortly be noticed. Thus

that disgusting animal the skunk, or chinche (*Mephitis americanus*), is frequently seen. There are three or four varieties of this species, of which I have seen only two: one was small, about twenty-four inches long, including the tail, which was five or six inches in length and bushy, thickest at the end; the colour of the body was grey-brown; the hair was long and loose, grey on head, back, and tail; the throat, lower jaw, muzzle, and legs were black; a white line extended across the forehead and ears to the neck.

The other species was larger, its general colour was brown; but neither of them was offensive to the nose, or favoured me with a display of its power.

The several species of skunk (*Mephitis americanus*) are in bad odour with both man and animals. Nature has not intended that they should be attacked with impunity; although they have powerful teeth and claws, these would be insufficient to exempt them from capture, but by means of a glandular apparatus, situated near the tail, they can forcibly eject such a disgusting and foul smelling liquid of an unctuous character as to compel the most undaunted to halt if any portion of this fluid touches them. It is so intolerably fœtid as to drive back dogs and men; if the garments are unfortunately touched with it, they must be foresworn, as no washing or cosmetic eradicates the effluvia; nevertheless, the Indians eat the flesh after cutting out the gland, and compare it to pork.

The otters (*Mustela vel lutra braziliensis* and *endris*) of this country (called also savons) are of two kinds, and are frequently seen in the rivers and creeks. Upon one occasion only have I been able to meet with one in a state of nature, either alone or accompanied by others. It was swimming along a tributary of the river Essequebo, where I was bathing. Our mutual astonishment on

first acquaintance was extreme, but in the most polite manner possible he bowed his head below the water, and took a quiet dive, an act which I did not attempt to imitate. A recent traveller* describes the smaller species as travelling in packs of eight or ten to hunt for fish, to which they prove very destructive.

The larger species do not assemble in such numbers, perhaps only two or three fish together in a select company. They can remain under water for several minutes, and whilst submerged prey on the fish as they are unsuspectingly swimming along. Seizing them by the belly, they drag them ashore, and depositing them there go in search of more ; but very often the Indians, who are intimately acquainted with their habits, lie in wait for them, and cowardly steal the fish which the otters had captured and intended for their own use.

The large otters are very daring, and attack the largest fresh-water fish, such as the arapaima or pirarucu ; nay, the Indians assert that the otters combine their attacks to assault large fish, and are generally successful.

The vicinity of the otter's fishing ground may often be detected by the piles of fish bones and scales, and sometimes by a rude footpath, hollowed or trodden out of the rocky ground by the diligent steps of the fish-eating otter.

The domestic dog (*Canis domesticus*) is not an animal peculiar to this country, but as so many, and of such great variety, have been at different times imported here, they require some notice.

This country is not adapted for the breeding of dogs. An animal of this kind, for instance say a Newfoundland, terrier, or hound, on first arrival loses his appetite, craves water, pants after the least exertion, and lolls about with his tongue hanging out of its mouth. He gets

* Schomburgk. *See* Fishes of Guiana.

sores on the feet or body, and the insects worry him. He becomes heavy, inactive, and stupid; his particular instinct becomes impaired or lost. His voice or bark is altered; and very often he is seized with convulsions, and dies shortly after his arrival. I brought out from England a very handsome dog of the terrier species in 1842, and in the course of a few months he died in fits, after having become emaciated and listless. Most dogs are subject to fits here, but so are cats, birds, and other small animals. In the case of those which creep near to the ground, I have sometimes thought that this might be occasioned by an unhealthy miasm exhaling from the low swampy lands.

It is truly ridiculous to observe the apathetic state of dogs, and other similar animals, in this colony. If a carriage approaches, and threatens to run over them, they positively wait until the very last moment before they crawl away. Very often they are too lazy or stupid to escape in time, and with ever so much painstaking a person who has to drive much can rarely fail to crush several idle victims in the course of the year.

There is something to me very painful in the sight of an Indian's dog; the wretched looking half-starved animal is a small mongrel with long upright ears and tail, which are seldom or never cut. It is rarely fed, and lives upon less food than, I believe, any animal on record. Yet such a dog will, if roused, hunt for hours, and makes the forest ring again with its cries. If not successful in the chase of deer, labba, or acouri, it returns home panting, torn, and bleeding; but after a drink of water lies down to sleep. No one would suspect from seeing these lean dogs, sitting like spectres on their bony haunches on the prow of some Indian corial, that they could possibly undergo such fatigue. Numerous kinds of hounds have been introduced here, but they are

mostly degenerate. The blood-hound, and the Spanish dog, a sort of cross between the former and some other species, answer better than most of the others. They often prove trusty, and are savage watchdogs. The several varieties of dog are made to hunt in this country, and by a little patience and training they can be taught to attack tigers, deer, and other wild animals. In the interior wild dogs are sometimes seen; these animals somewhat resemble terriers, and always hunt in packs. The Indians occasionally catch them for the purpose of crossing the breed of their own dogs.

In spite of the hot climate, and the number and liberty of dogs, hydrophobia is altogether unknown. One or two instances have been suspected to occur, but they have been very obscure and uncertain. Dogs certainly, at times, become very outrageous, and even apparently rabid, but the instances are few, and the consequences unimportant.

Of the wild dogs there are two or three species which require notice.

The species allied to the crab dog is commonly found in the savannahs and woods. It is known as the Canis cancrivorus, and is rapacious in its habits.

Another species is the Canis azaræ, found in the high lands of the interior, and proving very destructive to the Indian's stock-house. It makes a howling noise, and attacks and slays the domesticated dog.

There are numerous species of the feline tribe of animals in British Guiana, and they are by far the most savage and ferocious of our mammalia.

The domestic cat is as useful here as elsewhere, and is found in great numbers. As before observed, when young, cats are very subject to fits, and require some care in raising them. Cats are not so thoroughly domesticated in Guiana as in Europe. In general, they

are observed to be more wild and distrustful than in other places, but perhaps this may arise from their out-door life and want of domestic education. They are rarely made the same household pets of as in England, but are kept principally for their usefulness in clearing the houses of rats, mice, bats, and lizards, which would otherwise abound.

There are several varieties of wild or tiger cats (*Felis jaguarondi*), as they are termed. These vary in size from the common domestic animal to the bulk of a large dog, but are all more or less marked in the same manner, the ground colour being some shade of grey, and having numerous black stripes on the body. They abound in the forests and other uncultivated regions, and at times approach human habitations, where they prove very destructive to poultry. I have seen more than one species climbing the trees in the suburbs of this city; indeed, all of them are excellent climbers, and occasionally capture wild birds. They are in general remarkable for their long bodies and short legs, and the several varieties are distinguished by their tails, which are of unequal length. Some of the smaller kinds, if caught when young, may be tamed, but are always to be distrusted.

There is one species known as the black tiger cat. It is about the size of a small hound, and is of a black colour with stripes of white, but occasionally these are absent.

One of the largest varieties met with is called here the Labba tiger cat. This is an animal so closely resembling the Ocelot (*Felis pardalis*) in size, shape, and habits that I cannot but regard it as the same animal. Its tail and legs are somewhat shorter in proportion than the same organs of the ordinary tiger cats. The colour of the body is greyish-brown, marked with unconnected

irregular fawn-coloured spots or patches bordered with black. These animals are very wild and ferocious, and live on birds and small animals, such as the labba, acouri, &c.

There are also the Felis tigrina; F. macroura; and F. unicolor varieties of the tiger cat tribe.

The most formidable, however, of our wild beasts is the renowned "Jaguar" (*Felis onça*). This large and ferocious animal has been frequently regarded as a tiger, and is so called here; by others it has been described as the panther, and by some as the leopard. It is synonymous with the Ounce. It varies considerably in size, the older and larger ones attaining very great size. Though not equal to the true tigers in bulk and strength, the ounce or jaguar rivals them in activity and ferocity. The largest which I have seen measured about four feet in length, exclusive of the tail, and stood between two to three feet from the ground; many, however, are much larger.

The head of this animal is singularly flat, broad, and snake-like, and it has enormous strength of jaw and teeth. The colour varies according to age. It is generally of a greyish or fawn colour, beautifully marked with irregular rings, having a black patch in the centre, and shades of yellowish brown around. On the back there are oblong stripes, and on the legs irregular black spots.* The beautiful striped appearance of the skin is unsurpassed by that of any of the other feline animals.

When advanced in life this animal is often met with of a much darker colour—in fact, almost black. The rings and striated marks are less perceptible,* and this difference in colour has given rise to the belief that there are several varieties of the jaguar in this country. Some speak of the black tiger, others of a reddish-brown

* Cuvier.

species, and of the spotted ounce, but in point of fact these are one and all the same species, and only differ as to age and colours as far as my knowledge extends on the subject.

The jaguar is very commonly seen, even in the neighbourhood of the city. They lurk in the "bush" or densely wooded plains during the day, but are, notwithstanding, occasionally seen by watchmen and others during daylight, but at night they venture stealthily forth in quest of deer, cattle, and numerous other creatures, such as birds, fish, and reptiles. Their favourite food seems to be deer, pigs, and cows. They have been known to travel through the lower part of a dwelling-house in the country in scent of some pigs, and having seized one, to have marched quietly off to devour it at leisure. They cannot remove oxen in the same quiet manner, but springing suddenly upon an animal, they seize it by the neck, and having thrown it down, tear or open the large vessels of the neck, and quench their thirst in the blood of their victim. After having made a sufficient meal, they drag the carcase to some secluded spot and cover it lightly over; they then retire, proposing to themselves the pleasure of returning soon to continue their repast. The Indians and negroes are aware of this habit of theirs, and laying in ambush near to the spot where the meal is ready for them, await their approach, and when the crafty tiger thinks that all is as he left it, quite secure and savoury, he is fired upon and slain by the still craftier man, who, stripping off the beautifully spotted skin as a valuable trophy and prize, casts the quivering carcase aside for the use of the vultures. The jaguars are often, however, entrapped alive, and I have seen several which had been captured in the following manner:—A large hole or pit is dug in the ground, which is palisaded round and approached by a

heavy door, which is placed in connexion with the bait (generally a pig or goat); when the tiger seizes the animal the door falls down, and the savage beast is caged, but immediately he sets to work to liberate himself, and were it not for the posts and palisades he would invariably manage to burrow his way out through the earth, as has frequently been done. He is afterwards secured by placing a strong cage opposite the doorway, which being opened, he is urged into his den, where a slide thoroughly secures him. The jaguar is rarely or never known to attack man; his wants are too lavishly supplied by the forests or cattle-pens to excite him to become the aggressor; but if wantonly assaulted he will courageously defend himself.

There is or was a man living up the river Demerara who once had a single combat with a large jaguar; I do not know what the cause of the quarrel was, but each being endowed with more than ordinary strength, the conflict was long and doubtful. Fortunately the man had a knife at his side, and whilst the jaguar was lacerating one arm and side, endeavouring to reach his neck, he had presence of mind sufficient to plunge the knife into the animal's side, when he soon dropped powerless. The brave individual was, however, frightfully lacerated, and bears or bore about him the most positive evidence of his awful contest.

"Tiger hunting," or chasing the jaguar with dogs and horses, is occasionally carried on on a small scale in the country. An island in the Essequebo received its present name, "Tiger Island," from the abundance of the jaguar species met with; even now they are often seen swimming to and from this beloved retreat.

The fourth, or marsupial order of mammalia, consists of those singular-looking animals which have pouches attached to the abdomen of the mother, who cherishes

her young ones in this manner until they are capable of supporting themselves. The young animals of this order are generally born so helpless and half formed as necessarily to perish unless provided for in some extraordinary way, and nature, ever fruitful in resources, has contrived this bag or pouch as a sort of half-way station from one state of existence to the other.

There are not many varieties in this order of animals here; the numbers of some species are, however, very great, and they are in universal detestation in consequence of their destructive and thieving propensities, and their offensive appearance and effluvia. They are rarely seen by day, but prowl about during the night, and steal eggs of all kinds, besides carrying off fowls, ducks, &c.

Upon one occasion I was awakened during the night by a noise outside the bed room door, and going out with a lighted candle to see what was the matter discovered to my surprise a large yawarri, a species of opossum, quietly seated on a table covered with cups and saucers. It was either very much entertained with my appearance and the light in general, or was very bold and reckless, for it allowed me to approach it with a stick, which I applied with so much vigour about its head and shoulders as to cause it to break. Not satisfied with this beating, I kicked it down stairs and threw it out of the window, intending to examine it at my leisure in the morning, but to my surprise on seeking for it early it had gone.

"Sic transit gloria 'Yawarri.'"

The species known are the

Didelphis cancrivora	Didelphis crassicaudata
„ quica	„ musculus
„ philander	„ palmata vel chironectes variegatus
„ dorsigera.	

There are therefore seven, if not more, varieties of

opossum (*Didelphis*) peculiar to British Guiana; the word "yawarri" is applied to most of them; they vary in size, the largest which I have seen was about the size of a large cat, some are little larger than rats. They make a hissing noise when approached, and show their sharp teeth, which are fifty in number, the greatest hitherto observed in quadrupeds. The arrangement of the teeth is as follows: five incisors on each side in the upper jaw, and four in the lower; four molars, three bicuspid, and one canine at each side of the upper jaw, and the same in the lower jaw, or

Incisory Teeth.	Canines.	Grinders.	
10	1 1	7 7	
8	1 1	7 7	
18	2 2	14 14	Total 50

They have long naked ears, and the hair on the body is coarse and of a greyish-brown, the legs are blackish; head triangular-shaped, with pointed muzzle, tail naked, and marked in hexagonal divisions except towards the tip, where some bristles sprout. The feet are adapted for plantigrade action, and are marked with callosities on the soles. The toes are armed with strong claws, except the thumbs which are opposable, and have no nails, on the hinder feet.

These animals are slow, sluggish, and inactive in their movements; they are often seen on trees, but generally burrow in holes in the ground or in hollow stems. They are very tenacious of life. I once gave prussic acid to a large female who had eight young ones, quite blind, and each about two inches in length, clinging to her teats in the pouch. The wretched mother fought obstinately against the influence of the deadly poison, but even after her death, the young ones never let go their hold until forcibly torn away. I was quite surprised that they were

not equally poisoned with the mother; one of these little helpless things escaped notice and was positively alive next day.

The rodent animals constitute the fifth order of mammalia, and derive their name from the structure of their teeth, which serve not to cut or tear flesh, but rather to gnaw it; hence the term rodentia, or gnawers. Their general form, low in front and high posteriorly, cause them to spring or leap rather than walk, and many are excellent climbers. They are in general very swift of foot and are singularly active and sportive.

There are several species of squirrel or animals closely allied to the English specimens. The body is covered with smooth fine hair, white on the breast and belly, but elsewhere yellow-brown in colour streaked with white at the sides; the tail is long, bushy, and variegated in colour.

The water haas, or hare or hog, is a very common animal here, and congregates in large numbers in the woods and in cultivated districts where they prove very destructive to the produce of the fields. They are excellent swimmers, hence the name given to them by the Dutch, water haas (*Hydrochærus vel cavia capybara*). They grow to a large size, standing about two feet high; the head is enormously large; the body is covered by a bristly dark brown hair; they have no tail, or a mere trace of one; their feet are more or less webbed, indicative of their aquatic propensities. Four tusks protrude from the jaws. Their skin is exceedingly tough and is about an inch thick. Their flesh is considered excellent food, and they are often hunted. They are readily domesticated, and feed on roots and vegetables; they prey occasionally on fish.

The acouri, agouti, or coney (*Chloromys acuti*) is a species of hare very frequently met with. It is consi-

dered as the American type of the genus lepus, and is much sought after as game by the wild native and civilised colonist, who equally enjoy the sport and food it affords. It is about the size of a full grown rabbit, but often grows much larger. Its head is oval. The fore part of the body with the two front legs small in comparison with the posterior. It runs with incredible swiftness, or rather bounds and leaps with singular activity. Its colour is reddish-grey or brown, almost lustrous, but not uniformly the same over all parts of the body; the hair is very soft and smooth. It has twelve teeth in all, the four incisors being remarkably long, and often curved; it has four toes on the fore feet and three on the hind ones; the tail is merely rudimentary, barely an inch long, and naked. In feeding on some substances, such as corn, yams, &c., it sits nearly upright on its haunches, and holding the food between its fore feet gnaws it in a most ludicrous manner; it also feeds on roots, nuts, fruit, and plants. It is often domesticated; I kept one for a long time, but it escaped in the end, for which I was not sorry, as it was very destructive to furniture, which it gnawed. The acouri makes a grunting noise when approached, and if frightened utters a loud scream or cry; it is very timid, but will defend itself when occasion requires. It is met with in the forests, and burrows in the ground. I have seen the Indians call them almost to their very feet by imitating a sound which attracts them.

A smaller animal closely resembling the acouri, and belonging to the same family, is known here as the acouchi (*Cavia vel dasyprocta acuchi*), and has often been confounded with the other. It is, however, scarcely larger than a ferret, and is characterised by a distinct slender naked tail, about two inches in length. It is called by the natives "atouri," and has been described as

the "adouri" by an old Dutch writer.* It is of a reddish-brown or olive colour, and is mild and gentle in its habits, feeding on nuts and vegetables; indeed, in its general appearance and habits it is very like the acouri.

Another species is also found, the Cavia lencopyga; it is similar to the other in its habits and general appearance.

But the glory of the sportsman and the native is that beautiful animal so well known as the labba or paca (*Cœlogenys*—literally, hollow cheek). It resembles the acouri in form, but grows much larger, and is otherwise different in its colour and anatomical structure, which latter need not be dwelt on in this place. I saw the bony head of one which when alive could not have weighed less than thirty pounds. The labba has five toes on each foot. This animal can also sit upright, and uses its fore paws like the acouri; the colour is reddish-brown, with three rows of large white spots along its sides; the tail is very short; the eyes are large and lustrous, and approach in beauty to those of the gazelle. This lovely little animal abounds in the forests, where it burrows in the ground, and prowls about chiefly at night to feed on fruit and vegetables; it is often domesticated, and I have had more than one in my possession, whose graceful actions often reminded me of the cat, and, like that animal, it cleans its face with its fore-paws.

The labba is largely preyed upon by men and animals, but nature has provided for the continuance of the species by rendering it prolific. It can swim, run, and leap, and is not readily surprised. It is only the noiseless step of the wary Indian, as he tracks his way through the pathless woods; it is only his quick eye and ready aim that can secure the nimble labba, ere he darts away or plunges into his hiding-place into the ground. The

* Hartsink.

traveller, or hunter, often hears its grunting cry and bounding step—nay, can occasionally catch a glimpse of one in the entangled bush, but he seldom or never succeeds in the chase, and the crafty Indian knowing this readily dispenses with his company. The flesh of this little animal is so esteemed that it is a common remark here, that "He who has eaten labba, and drunk creek water, is sure never to leave the colony."

Of such animals as the guinea-pig, rat, and mouse there is nothing of any importance to be related.

The former, cobayes, or guinea-pigs (*Cavia cobaia*), have been introduced here, and are very plentiful and prolific. I am not aware that they are found in our forests, although to be met with in the woods of Brazil.

There are more rats than mice in British Guiana; both are exceedingly destructive, and may be found in almost every house.

There are several varieties of the rat family in this colony. One large species is known as the cane-piece rat; in dry weather especially it is very destructive to the young canes. This species is eaten by the coolies, who esteem it a delicacy.

The sixth order of mammalia affords some interesting species, which, however, have been so often described by naturalists, and others, as almost to preclude the necessity of many observations about them in this place. These unguiculated quadrupeds may be easily recognised by the absence of teeth in the front of their jaws, by their long crooked nails, and by their slow inactive movements. The first peculiarity has given rise to their scientific name (*Edentata*), as applied to this order, which is a small one, and has only three representatives here—the sloth, the armadillo, and the ant-eater.

Everybody has heard of, or seen, that clumsy looking

beast the sloth (*Bradypus tridactylus*). The lazy and indolent should observe it closely, and reflect that others regard them with almost as much surprise and pity as they bestow on this sluggish animal. Those who wish to cultivate an intimate acquaintance with it should seek an introduction in the forests, where these animals may be seen slowly moving along the branches of trees, clinging by their strong nails, and with their backs downwards to the under surfaces, and shuffling along quite fast enough apparently for all the purposes of their existence ; they feed on leaves and vegetables, and have very peculiar stomachs, not unlike those of the ruminants among animals. There is both the three-toed and the two-toed sloth here ; the former is known as the Ai, from a plaintive expression it makes ; the other as the Unau (*Bradypus didactylus*), and which is generally larger than the ai ; its colour is greyish-brown, approaching sometimes to a reddish tint.

Two other species have been described ; the Bradypus gulans, and the Bradypus torquatus.

Several species of armadillo (*Dasypus*) are met with in British Guiana. Four of these are well known, and are recognised by the number of bands, or rings, of mail of which their back is composed. There are also other differences in the number of their teeth, which need not be entered into here. The four varieties of the armadillo species best known are the three banded (*Tricinctus*) ; the five banded (*Quinquecinctus*) ; the six banded (*Sexcinctus*); and the nine, or many banded (*Novemcinctus*).*

The last is the largest, and measures about three feet

* The bands noticed in the larger species, frequently exceed nine in number; as many as seventeen have been counted in specimens common to this country.

in length; the bands of the back are of a bony, or shell-like substance, held together by membranous ligaments, which admit of their sliding one over the other.

The armadillos are inoffensive in their habits, but can use their claws to some purpose if attacked.

They feed on roots, insects, fruits, and birds; they are very shy, and seldom go abroad in the day time, concealing themselves by burrowing in the ground.

The Indians feed on their flesh, and exercise some ingenuity in discovering these animals. It is said that, when in search of an armadillo, they introduce a stick in holes which the animal has made; if any mosquitoes make their appearance, they consider themselves sure to find an armadillo not far off; but if no mosquitoes are disturbed, they leave that hole and try another.

The varieties known are the

Dasypus giganteus	Dasypus villosus
„ encoubert	„ tatouay
„ peba	„ minutus

Three different kinds of ant-eater (*Myrmecophaga*) are known here, and are readily distinguished by their size.

The smallest is a pretty looking animal, about the size of a rat, and covered with a soft greyish-brown fur. It has a prehensile tail, and has two claws in front and four behind. I have seen several of these small ant-eaters, which are commonly found at the back of estates; they can live a long time without food; for one which I saw tied up, in order to tame it, refused everything that was placed before it for many days, when it effected its escape. This is the Myr. didactyla.

The second species is about the size of a fox, but is not so common as the small one. The tail is also prehensile, but it has four claws on each fore-foot, and five

on the hind ones ; the colour varies from fawn to black brown. This is the Myr. tetradactyla vel tamandua. I once had one in my possession, which climbed trees in search of ants, and which required considerable force to remove it from the branches, to which it clang like a sloth.

The third species is of enormous size in comparison with the others. It measures six feet and upwards in length. It is met with in the neighbourhood of creeks and hillocks, especially where the troolie-tree grows. The skin is coarse and thick, and covered with dense wiry long hair; the fore-legs are thick, and the feet armed with four very sharp and crooked claws, whilst the hind feet have five. In walking the claws are curved upwards and the animal rests on the outer side of the fore-feet, which occasions an ungainly gait and prevents it from progressing rapidly; the long shaggy tail is also more or less an encumbrance to rapid motion. It is by no means a savage animal, but is much dreaded by the natives, who, however, kill it for the sake of the flesh, which they eat. The animal itself, as its name implies, feeds chiefly on ants, but it does not refuse other food.

The seventh order of animals—the Pachydermata—comprise such as are distinguished by the thickness of their skins, by the peculiar structure of their feet or hoofs, and by their feeding on vegetables, besides other peculiarities. This order includes a great number of animals which are, however, very different in appearance ; but as only a few are indigenous to this country, I shall confine myself to their notice.

Two or three species of wild hogs have been met with in British Guiana, and have been named the bakkir, the pingo, and the peccari ; the latter is best known, and

may commonly be seen by travellers roving about in large droves, and feeding in the woods on roots and grubs. I have seen several specimens of them. They vary in size, but measure generally about three feet in length, and are of a greyish brown colour. The tail is very short, merely rudimentary ; at the lower part of the back there is a peculiar orifice connected with a glandular structure which secretes a most fœtid liquid, the use and nature of which are unknown ; when a drove is disturbed the animals make a loud grunting noise, and headed by a large male, the patriarch of the family, scamper off at a rapid pace, and as they are armed with short thick tusks their charge is generally avoided by both man and beast. The Indians attack them for the sake of their flesh, which is good eating, but take the precaution of dissecting out carefully the fœtid gland on the back. There are two varieties of peccari, or Mexican hog (*Dicotyles torquatus* and *labiatus*) ; the larger species is called by the natives kaivounie, and the smaller kind the abouya.

Their habits are much the same as the domestic hog, but they do not breed with them, and the females only bring forth one or two young ones at a birth.

There are besides the peccari one or two species of wild hog seen in the interior, which approach the boar in size and habits. The largest is named the Bakkir (*Sus* ——?), and inhabits the mountainous districts, feeding on vegetables and occasionally reptiles. I have never seen one, but conclude that, if present, their resemblance to the common wild boar would render description unnecessary.

The domestic hog answers remarkably well here. The present breed of pigs is well suited to the country, and the pork equals in flavour that of England and North America. Pigs are not fattened to the size which

they attain elsewhere, and the variety is not so great, but in point of delicacy and soundness the meat surpasses that of many other countries. Little or no attention is paid to the breeding or feeding them. Nothing seems to come amiss to their appetites, and the negroes and Portuguese, especially those in the country, invariably manage to harbour a pig or two in their establishments, which practice is not calculated to add to their cleanliness. On estates they do occasional mischief in the cane-pieces and on the road-sides, where they tear up the ground in wet weather for grubs and worms.

The Tapir, or Mypouri (*Tapir americanus*), is another of the hoofed animals of this country, and is met with in marshy spots in the neighbourhood of the rivers. It is called "Canta" by the natives, and has been compared to a cow in appearance, but is not so large, and resembles more a large hog. The snout is prolonged, and on the neck, which is fleshy, there is a kind of mane; the tail is short and spotted with white; the young ones are spotted white on the body. The adult animal is about five feet in length, and stands about three feet in height, being one of the largest animals we possess. The ears are small and pointed, and the general colour of the body is brown. It is by no means ferocious, but is very shy. It is hunted by the natives, and the flesh is not unlike beef, and is occasionally met with in the market. The skin, which is thick, is also found useful, and, if properly tanned, answers the purpose of leather. This animal may be considered as the hippopotamus of this country, its habits and haunts closely resembling the latter. It feeds on roots and plants, but as it is nocturnal in its excursions, it is not often seen. The anterior feet have four toes, and the posterior only three, the tips of which latter are cased in hoofs. It is called by the colonists "Bushcow."

The horse (*Equus*) thrives very well here. It is asserted that wild horses roam at large in the vast plains of the interior, but whether this is the case or not is of no importance, inasmuch as the difficulty and expense of procuring them would be greater than the present mode of obtaining horses, which consists in importing cargoes of them from Great Britain and the United States. The latter is the principal source of supply, and it is not a little remarkable that horses which have notoriously been shipped as worn out and unfit for the hardships of the Americans, rally and improve under good and gentle treatment in British Guiana. They seem to obtain a new lease of life, and after a little care in acclimatising them, turn out very useful animals. The best horses are not likely to be sent here for sale, but occasionally a very valuable animal is picked up from the cargoes. The price of a horse varies from 25*l.* to 40*l.* or 50*l.* A good horse may often be purchased for 30*l.* I paid that price myself for a mare in 1845, just after she had landed, and although hard worked up to the present time, she has never been ill nor shown any symptoms of old age.

The creole horses are somewhat remarkable in their appearance; they are slender in make, very active and fleet, but are not generally serviceable as draught horses, although exceptions occur; they are very hardy and enduring, but are seldom so well broken in as to render them tractable and docile animals. In the race-course they accomplish a mile in one minute and twelve or fifteen seconds.

The eighth order of animals (*Ruminantia*) comprise such as possess the faculty of masticating their food for a second time by bringing it back to the mouth after it has been swallowed. This is effected by the peculiar organisation of their stomachs and gullet, giving rise to

the act so well known as the chewing of the cud. The anatomy of the teeth and feet also distinguish these animals, among which I shall confine myself to the deer, sheep, cows, and goats belonging to this country. There are only three or four species of deer met with—viz., the bush deer, the cane-piece deer, the savannah deer, and a small harmless species known as the antelope or wirrebourriciri.

The bush deer (*Cervus rufus*) is the largest, and is of a brownish-red colour, with short curved horns. It is called "Baieu" by the natives, and is seen in the wooded parts of the interior, where, safe from the perils of the hunter, it becomes the prey of the jaguar and large snakes.

The savannah deer (*Cervus savannarum*) is met with in the large savannahs in herds of from four to six. It differs little in appearance from the cane-piece deer. It is often caught and tamed by the Indians.

The cane-piece deer (*Cervus simplicicornis vel campestris*) resembles the fallow deer of Europe; it is of a fawn colour, and has large branching horns. These animals are very plentiful in the neighbourhood of the estates, and are commonly chased by the sportsman, who hunts them with gun and dogs. They are very fleet, and prove courageous when attacked. They live in the woods and cane-fields, but take to the water readily if hotly pursued, where they may be captured easily if a boat is at hand, for they do not swim fast. I have seen them when wounded dash into the water, and cross a river more than a mile in width. The flesh is not equal to the venison of Europe; it is dry, and wanting in flavour.

The fourth species, known as the Wirrebourriciri (*Cervus humilis*) by the Indians, is a small but lively animal, resembling the antelope, but without horns. It

is of a light brown colour above, and whitish below, but has a row or more of white spots or stripes along its sides; when full grown these spots disappear more or less, and the animal becomes uniformly brown in colour. It is very fleet and agile, and has beautiful dark eyes. It often happens that the young of the two last species of deer are captured by hunters, and frequent attempts have been made to domesticate them. They are very docile, and soon become so tame as to eat out of the hand, but they seldom live long in a state of bondage. I have seen several of these animals which, after being carefully fed and attended to for several weeks or months, have eventually died, and, strange to say, with the same symptoms—viz., a swelling about the throat, which apparently induces spasms.

The goats imported to this country have prospered exceedingly, and flocks of them may be seen on almost every estate. They are very abundant in Georgetown, are very hardy, and require little or no care in raising them. The milk is found occasionally useful to invalids and children, and a good milch goat is a valuable acquisition to travellers going to Europe by sailing vessels, as well as to those who travel by water to the different parts of the colony. The flesh is sometimes sold in the market instead of mutton, and a roast kid is no unpleasant variety to the provisions of the housekeeper. The coolies are especially fond of goat's meat, and are frequently seen to carry home the putrid carcases of these animals destroyed by accident, which they feast upon with impunity, to the great scandal and indignation of the vultures.

The sheep introduced into this country do not thrive well; there is a great want of sweet grass and pasture for them. The heat of the climate is unfavourable to their comfort, the woolly coat given them by nature

proves here a positive encumbrance; it becomes matted together, and after a short time falls off entirely, never to be reproduced; a sort of close thick hair covers the body, and the tails become mere rudiments; occasionally a sheep preserves its wool, but it becomes very coarse and dark in colour; the young sheep, however, continue for some time with their woolly covering, but do not fatten so well as in Europe. The creole breed is quite insufficient for the markets, which require to be supplied from other countries; hence the price of mutton is dear, ranging from 1s. to 2s. per lb.

The cattle of this country is derived from various sources; oxen are imported in large numbers every week or two from the neighbouring Spanish provinces of Venezuela and Orinoco; when brought they are generally in the most wretched condition, being squalid and thin, and fetching a price of 1*l.* 10s. to 2*l.* 10s. per head. In this state they are unfit for the market, and are purchased wholesale by the proprietors of cattle farms, who, after keeping them for several months, sell them to the butchers at a handsome profit. Their condition improves very much after grazing for some time, but the meat is rarely good, and sells in the market from 4d. to 8d. per lb. The creole beef fetches a higher price, and in general is far superior; indeed, with proper care and attention, the breed of cattle in this country might become exceedingly good. Several attempts have recently been made to improve the breed, and apparently with success, for the beef exhibited for sale about Christmas time might vie in quality with that of most other countries; but as a general rule cattle do not fatten well here. There is no scarcity of pasturage or food, but the grasses on which they subsist are perhaps not the best adapted for the maximum of nutrition, and often the want of fresh wholesome water is severely felt in the dry

seasons; this, however, might easily be obviated, and it is now a frequent practice to sink artesian wells on cattle farms in the country.

Of the cetaceous animals there are only two representatives here, and these are but seldom met with. There are no whales, or large black fish, found in the neighbourhood of Guiana.

The Delphinus amazonicus is only to be found in the interior of the country, about the neighbourhood of the river Takutu and the tributaries of the Amazon. It belongs to the family of the dolphins, and is allied to the whales and other cetacea.

The Manatus americanus, or sea cow, or sea ox. This animal is met with both in the interior and in the outlet of the larger streams. It is amphibious in its habits, and is a large unwieldy-looking animal, having an oblong body terminated by an elongated oval fin. Vestiges of nails are discoverable on the edges of their fins, which they employ with tolerable dexterity in creeping and carrying their young; hence the comparison of these organs with hands, and the name of manatus applied to this animal, of which lamantin, another name for it, is a corruption. They have also been termed mermaid, from the existence of mammæ, and at the Cape of Good Hope are known as cow whales.

The skin of the manati, as it is here called, is of a blackish colour, very tough and hard, and full of inequalities, like the bark of trees; a few bristles or coarse hairs about one inch in length are sparsely scattered over the body.

Sir Walter Raleigh in his voyages to Guiana alludes to this animal, and speaks of it as very good food.

The species here measure from seven to twelve feet in length.

APPENDIX.

THE VICTORIA REGIA.

THE famous Victoria Regia, although discovered in British Guiana by Sir R. Schomburgk in 1837, was, it appears, previously known to other travellers, who had met with it in the neighbourhood of the river Amazon.

The earliest mention of it in print, according to a highly respectable authority,* occurs in "Trorieps Notizen," vol. xxxv. p. 9, where it is described as "Euryale Amazonica," which name it derived from a distinguished botanist and traveller, Dr. Poeppig, who first found it in the river Amazon. "Previously, however, to this period, Mr. D'Orbigny, in 1828, sent specimens of this gigantic water lily to the Museum of Natural History, in Paris. He had gathered them, in 1827, in the Province of Corrientes, in a river tributary to the Rio de la Plata." Of the specimens sent, the dried flowers and fruit were lost, but judging by the leaf, it was regarded as a species of Euryale by the French botanists. Mr. D'Orbigny, although desirous of claiming the honour of the discovery of this noble plant, alludes to a somewhat similar species having been previously seen by Haenke, who travelled about 1801, and afterwards by Bonpland.

The plant has subsequently been found in several other stations, and abounds in some of the streams met with in British Guiana—as the rivers Berbice and Rupununi.

* Curtis's Botanical Magazine, vol. iii., third series, p. 3, 1847.

TABLE of Textural Analysis of Soils.—(Dr. Shier).

LOCALITIES.	Adherent Moisture.	Organic Matter.	Clay.	Coarser Matter.	Grades of coarser Matter.					Soluble Matter and Loss	TOTAL.	REMARKS.
					Fine Sand.	Sand.	Grit.	Small Stones.	Loss in sifting.			
RIVER FRONTS:												
Blairmount, soil	6.74	5.51	50.33	35.53	31.37	3.78	.30	...	.08	1.89	100.00	Rich deposit.
Smythfield, soil	10.07	6.33	37.10	45.63	33.08	11.63	.75	...	.17	.87	100.00	
La Pénitence	7.80	6.95	27.66	57.02	25.20	21.93	9.16	...	.73	.57	100.00	Thorough drained field.
Pénitence, subsoil	6.53	3.75	28.21	59.73	23.01	22.41	13.90	...	.41	1.76	100.00	
COAST FRONTS:												
Mainstay, subsoil	7.32	6.04	35.60	49.34	27.90	19.05	2.39	...	...	1.70	100.00	Good example of its class.
Lima, No. 1, soil	6.74	8.07	25.67	58.17	30.77	19.32	7.91	...	.17	1.35	100.00	
Lima, No. 1, subsoil	7.69	5.51	36.13	49.10	30.65	17.42	.65	...	.38	1.57	100.00	
Zeelandia, soil	8.46	5.39	35.41	49.33	23.23	21.15	4.38	...	.57	1.41	100.00	Excellent land.
„ subsoil	6.51	5.24	35.75	51.26	26.63	18.13	6.41	...	.09	1.24	100.00	
Bel Air	13.96	4.04	42.30	37.75	24.80	12.03	.67	...	.25	1.95	100.00	
Hague, No. 1	8.31	5.34	37.38	47.35	31.55	15.05	.66	...	.09	1.62	100.00	
MORA CLAYS.												
Mainstay, subsoil	8.19	4.56	35.20	50.42	28.43	18.96	2.80	...	.23	1.63	100.00	Back lands.
Mara, subsoil	10.44	4 58	42.62	40.42	31 24	9.12	.05	...	.01	1.94	100.00	Savannah behind cultivation.
Lima, No. 3, subsoil	6.33	3.97	31.18	57.27	26.73	21.54	8.88	...	.12	1.25	100.00	
REEFS.												
Port Mourant	5.95	4.70	18.40	69.44	61.75	7.22	.32	...	.15	1.51	100.00	Shell reef.
Friends	5.59	.06	48.92	44.33	39.71	4.45	.07	...	.10	1.10	100.00	Bullet-tree.
CADDY.												
Haagsbosch	2.20	.50	5.98	90.31	90.20	.00	.10	. .	.01	1.01	100.00	
Enmore, No. 1	1.73	1.09	4.11	92.64	92.50	.07	...	...	.07	.43	100.00	
PEGASS.												
Haagsbosch Pegass	17.02	70.62	7.94	4.76	2.34	1.08	.34	...	1.00	...	100.14	
Mara „	9.49	18.91	40.97	28.26	22.24	5.66	.18	...	0.18	2 57	100.00	
Lima, No. 3, soil	6.91	10.39	38.42	43.03	21.23	16.98	4.68	...	.14	1.25	100.00	
SOILS OF INTERIOR.												
Penal settlement, soil	.78	1.38	8.50	89.01	24 09	50.21	14.55	...	.16	.33	100.00	
„ „ subsoil	.83	1.27	4.21	93.33	19.41	47.89	25.89	...	.14	.36	100.00	Produce, root crops.
Baroo Karoo, soil	2.25	17.15	7.66	72.33	28.85	1.12	42.12	.14	.10	.61	100.00	
„ „ subsoil	1.50	2.82	6.87	89.36	19.93	41.76	27.29	.25	.13	...	100.55	
Bartica Point	2.61	3.74	40.90	50.82	21.11	21.92	7.40	...	.39	1.93	100.00	
DOYCE'S SETTLEMENT.												
Near Bartica Point, subsoil	1.26	3.14	17.62	77.43	37.55	34.52	5.28	...	.10	.55	100.00	

TABLE showing Quantity of Salt in Subsoil Waters.

Names of Estates.	Grains of Salt per Imp. Gallon.	Remarks.
Sophia, plantain walk	282.27	East coast of Demerara.
Marionville	219.47	Island of Wakenaan, mouth of river Essequebo.
Palmyra, front land	19.31	
Palmyra, highest land	24.87	
Endeavour, highest land	226.67	Island of Leguan, in mouth of Essequebo.
Endeavour, abandoned front land	294.86	
Doorenhaag, abandoned low land	214.89	
Enterprise, high land	98.13	
Lima, No. 1, abandoned front land	258.23	Arabian coast.
Lima, No. 2, middle land	102.39	
Lima, No. 3, back land	101.40	
Lusignan, abandoned front land	494.63	East coast of Demerara.
Lusignan, middle land	207.37	
Lusignan, back land	104.51	
Mainstay, front land	431.08	Arabian coast.
Zeelandia, B	118.90	Wakenaam.
Zeelandia, A	207.04	
Zeelandia	286 35	
Bel Air, abandoned front land	531.48	East coast of Demerara.
Bel Air, unproductive	266.73	
Bel Air	160.01	
Bel Air, extreme back land	174.01	
Maryville, lowest land	79.82	Leguan.
Maryville, highest land	6.72	

TABLE showing Quantity of Salt in Artesian Wells.

Localities.	Grains of Salt per Imp. Gallon	Remarks.
Military Barracks, Georgetown	39.75	Recently executed boring.
Well at Market-place „	20.78	
Major Staples' boring „	25.69	
Well near old Colonial Hospital	21.60	
Plantation Spring Garden	9.34	Essequebo.
Plantation Vigilance	325.44	East coast of Demerara.

VOCABULARY OF EIGHTY-TWO NOUNS AND NUMERALS IN THE FOUR INDIAN LANGUAGES OF BRITISH GUIANA.

*** Where the Accaway and the Carabisce are exactly the same, one is omitted. The vowels have mostly the broad accent.

ENGLISH.	ARAWAAK.	ACCAWAY.	CARIBISCE.	WAROW.
1. Man	Wadeely	Weenow	„	Neebooroo
2. Woman	Hearoo	Eboocetey	Woorey	Teeda
3. Boy	Elunchy	Weeuofutoonoh	Meh	Noboto
4. Girl	Headaaza	Yemooricoh	Yemooroh	Annebaoka
5. Old Man	Habettoo	Tompoco	„	Edamoo
6. Old Woman	Daaca Tay	Wabotorey	Peepeh	Natweet
7. Brother	Dalookeytchey	Sayowa	Seewoh	Daheyey
8. Sister	Dayoodaata	Yeynootey	Wahwah	Daakooey
9. Uncle	Dadayinchy	Yaaooh	Yaawooh	Daatoo
10. Aunt	Daarey	Waapoh	„	Daakatey
11. Cousin	Daooenchy	Baatomoh	„	Hesenga
12. Grandfather	Dadookootchy	Taamoh	Taamcoh	Nobo
13. Grandmother	Daacootuh	Peepeh	„	Naatu
14. Grandchild	Daalekenchy	Eupaarey	„	Naatoosenga
15. Head	Daaseye	Eupopo	Eubooboh	Maquaw

ENGLISH.	ARAWAAK.	ACCAWAY.	CARIBISCE.	WAROW.
16. Neck	Daanooroo	Yewasacorbocy	Yenasally	Mahaabey
17. Eyes	Daacousy	Yenooroo	,,	Maamu
18. Nose	Daseery	Yenatarry	,,	Mayhecaddy
19. Mouth	Daleeroko	Eubotarry	Endarry	Maroho
20. Hair	Daberra	Eyunsettey	Eusettey	Maaheo
21. Ears	Dadeehy	Panuarrey	,,	Mahohoko
22. Arms	Daadennina	Yahoorey	,,	Mahaara
23. Hands	Daacalbboo	Yeyuarroo	Yenarry	Maamuhoo
24. Fingers	,,	Yeyuarroo-seeteireh	Yenarry eteedeh	Mamuhoo
25. Bones	Daaboonah	Yehpoh	,,	Moohu
26. Skin	Daada	Eupeehpoh	,,	Mahoro
27. Flesh	Daseeroquaw	Paacah	Eubonoh	Matoomuh
28. Back	Dahaborooh	Yaabooh	Enganarry	Maahuh
29. Belly	Daadeybayou	Youemboo	Euenboh	Moboonuh
30. Breast	Dalounsebou	Epopooruh	Epoboroh	Maameyhoo
31. Thighs	Dabookeesa	Eupatooh	Eupeeteh	Marolo
32. Legs	Dadaanah	Eusairuh	Euseedeh	Maahah
33. Feet	Daacooty	Eubobooruh	Pobooroh	Moomoo
34. Blood	Cooreesa	Mooenooroh	,,	Hotuh
35. Fire	Ikhe-kee	Waatuh	,,	Ikkoonuh
36. Wind / Air	Awadooley	Pepeytoh	,,	Ahaaka
37. Water	Wunney-yabbo	Toonah	Tooniah	Ho
38. Earth	Ororoo	Eetoh	,,	Hotah
39. Sky	Ooraroo / Casaako	Caaboh	,,	Nahaamootuh
40. Bow	Semaara-haaba	Ooreybah	,,	Ataboroo
41. Arrow	Semaara	Poolewah	,,	Atahoo
42. Bow-string	S h. Teemy	Labarey omooteh	Ooreybah amooteh	A. Ahootuh
43. Hammock	Daacorah	Eubaatey	,,	Hah
44. House	Baacheh	Yeowteh	,,	Hanooko
45. Corial	Coriaal	Couriaala	,,	Wayeybacka
46. Paddle	Nahaaley	Abagoeta	,,	Haaheh
47. Buck-Pot	Dawadda	Toomayeng	Toomaany	Hahluh
48. Knife	Eadawalla	Mareea	,,	Daabo
49. Hook	Bodeyhey	Kehweey	Kuhweh	Osceebokay
50. Calabash	Eweedah	Quahey	,,	Matalu
51. Club	Moossy	Eubodooroh	Pooduh	Dooseh
52. Beads	Coraara	Casooroh	,,	Naascey
53. Cloth	Caremarry	Tebooroh	Cameesa	Heakaarah
54. Sugar	Secaruco	Asekara	,,	Secaramutuh
55. Salt	Pamoo	Waaeyu	,,	Bam
56. Pepper	Haatchey	Pooeynuy	Poomeh	Hooka
57. Gun	Aracaboosa	Arakoobsa	,,	,,
58. Powder	Culbara	Culbara	,,	Henehbwah
59. Shot	Bala	Peeroto	Beerotoh	A. Anuu
60. Tobacco	Yeury	Taamooy	Taamuh	Aoha
61. Sun	Hadalloy	Weeyeyu	,,	Yah
62. Moon	Kaatchey	Noonoh	,,	Waanehuh
63. Stars	Weewah	Eeremah	Seereguh	Koorah
64. Rain	Wunney	Konobo	,,	Naahaa
65. Wind	Awadooley	Pepeytoh	Beybeytuh	Ahaaka
66. Thunder	Acoollia cally	Gonomaru	,,	Nahaa
67. Lightning	Beylebeleero	Cabeyta	,,	Abeylebeyleh
68. Hills	Ororoo Ayumuntuh	Wooeybooey	Wooboh	Hotaquay
69. Woods	Konoko	Eetob	,,	Daunah
70. Rocks	Seeba	Toeboh	,,	Hoeyu
71. Sand	Murtooko	Sacow	,,	Kahomrah
72. Islands	Kai-eery	Paah-oh	Paahuh	Bulnhoh
1——One	Abaaru	Tegeenah	,,	Hesacha
2——Two	Beama	Asagreh	,,	Monamu
3——Three	Cabooin	Osorwoh	,,	Deeanamu
4——Four	Bee-y-beech	Asugreyney	,,	Munebee-nahatakanuh
5——Five	Aba-dacabbo	Tegeneh seh	,,	Mahabass
6——Six	Aba temainy	Meah daroy	,,	Mohomatunahesecka
7——Seven	Beama temainy	Yacombeh	,,	Mohomatuna-Manam
8——Eight	Cabooin temain	Tosorwa-nobeh	,,	Mohomatuna-Deeanamu
9——Nine	Beeybeech temain	Yacombeh-nelly	,,	Mohomatuna-Nahatakanuh
10——Ten	Beama dacabbo	Yuma-cawuh	,,	Mooreycooyt

THE LORD'S PRAYER IN ARAWAAK.

Kururumanny—haamary caleery oboraady—bachooty deweet boossa—baynsè parocan, bayin so pareeka—yahaboo ororoo adiako—meherachehbeyn dacotooniah—Ebehey nebehedow wakayany odomay—Mayera toonebah dayensey—Boboro talidey.—*Hedouainey.*

LORD'S PRAYER IN THE ARRAWAK.

Watchinatchi ayunumkundi; büssadalité bui iri; bui adayahiu-gaana
Our father dwelling in heaven; sanctified (be) thy name thy kingdom
andiabute; bànsissia banikitan harare lake ayumbanan din; bùsika wamiun
be coming thy will be done earth in heaven as than give us
wakalé kassaka buhuman; kan wawa kaiya bubalikitan, wai din,
our bread day every and our bad doings forgive us we as
abalikiten nai wakaiyatchi ukunnanium; kan tetegeden ulukun massi-
forgive men wicked against us and a fall into lead
kinniba-u, tumarrua buburatepha-u wakayahoe oria; adayahiu-gaana buiyan
not us but help us . evil from kingdom thine
ettata okanna, galimettü birruisa. Kiduahein.
power great shining around thee. Truth.

LUKE XV. 11, TO THE END.

Ikka Jesus adiaka namün hiddaba, abba Waditi kamunika biamanu laditti laddikitti adiaka litti umün, bussikati damün dattidannikuwa damün, biattu kela-kiahano, nattinatt akullebetta namünninu nannikuwa. Oa kurru laddikitti laditti ahurrudukutta tumaqua lan-lakunatabbu waikille-mumiru; jumün lui arrada tumaqua lamüntu akuttakuttadahü attatadahü muttu abba. Gidiatanibena harrakeben tumaqua lân lunria manswattu hamassiahu anda kia hurruru bannamamutti ukunamün lihi badja aussa kamonaikákabén, lan uduma akunun abba jumünti kabbujälti ibiti, lamünibiai: lirraha imekuda lugkubanimünilikittanibian porku. Ikka luhurrussidakittika ballin porku ä kissia abbu, kan abbâ kurru assika lumüninu—Ikkare! kakuburugkuakoahiddabai, ladiaka lamünikoawa: juhulli kabbujunnuatti kemekabba halininu kamünikahüabai datti, kan dai ahudama hamussiahü udumajaha; anssün kidappa dai akujunnua datti ibiti ba ahakan lumün; datti, daikewai amassikandoaré. Adayahü äme, bui äme ku mayumuntina bumün hiddade, dadittibanibia damün kiakanna kemekebutti bia bumunrubuün bussikipade — dappa lumün — La lukuburugkuamonnua— Gidigki lui anssa, landalitti libiti hiddaban gahawai koalanika litti uria, litti addika hiddai amamallidan lugkuburugkuamonnua lamün addallidün lirabuddigki lannikaka luma lussunta badja lullerugku—Lumorrua laditti adiaka lumün; datti dai amassikandoaka Adayahü äme bui äme badja ne mayumuntina kiahan bumünde daditti—banibia damün—La litti umünkan litti adiaka lüssannanutti umün handate tumaqua aditu üssan äkehü abba kia assikinhuppa lukuna assissau ükabbukunduhubigkabba ukuna, sappatu badja lukuttiukuna. handate hikkihitu baka ussa abba ba hupparrüpan akuttunrewali labbu hallikebbe!—kan iramonna ba. Ahuduttikuba lihi, daditin ballin, kanlükakittoaba abulledutikoba badjai kihia dautika hiddabailan, naussa kiahana hallikebben luduma—Lumorrua lubukitikil anda kabbüyaria, bahüibite kan lanika lakannaba nayintunua naükittan ladja lan uduma assimakaabba lüssanti libitiwa, hiddia ma lumün hamahükebé turraha? La ahadakuttuni Lüssanti adiaka lumün buhukitti anda ba: butti apparru kittan hikkihitu baka üssa luutikini laditti nakarrihüa uduma—la ussantihü adian—Ikkahui aümattoa lumonua makudu nuahittin bahü lugkumün nibiti—kiahana litti apattikida akugabani—Lumorrua lui aonabaka litti adian lahakaka lumün baddika kiamanuttu juhun wyua ukünama dakuba ikittanibu — kemekebbün diärrumamassikan bäne, kihia marrikinkoabakuba damün abba kabara dayuhunu urna hallikebbenibrade—kan lirraha baditti arradittikuban lannikuwa wurahü abba andinbenna bibitiba bussikibi lumünnin hikkihitu baka kebe üssa—la adiankan litti adiaka lumünba, damuniwakoahüaba: daditti, tumaqua dai anibuiani kewai badja: kiahana hallihibbékubuppa bumonua ahuduti diamutti kuba liraha buhukitti ballin, kan lukakittoal abulleduttikuba bai, kan antikahussia hiddabai lui—la lumün la da din Jesus.

Proposed Article of Agreement between the Directors of the West-India Company and the Proprietors of Berbice, dated September 10th, 1714.

1. The directors of the West-India Company, at the requisition of Messrs. Van Hoorn and Schurman, shall procure two hundred and fifty Adra or Angola slaves, two-thirds males and one third females, and such other numbers as may be further required for the use of the colony of Berbice.

2. That the above number of two hundred and fifty shall be delivered in Berbice to the order of Messrs. Hoorn and Schurman.

3. That a ship shall be equipped and sent to Africa for the reception of the slaves, and shall be provided with every article requisite for their use.

4. That Messrs. Hoorn and Schurman, besides sending an order or requisition to the directors for any number of slaves, shall also forward security for the payment of the same.

5. That upon receipt of the first two hundred and fifty slaves in Berbice, the following payment shall be made to the directors in Amsterdam; viz., for Angola slaves 212 guilders 10 stivers per head; and for Macquiron slaves 165 guilders per head.

6. That the separation between the Angola and Macquiron negroes shall be made on the fourth or fifth day after their arrival, by four persons selected for that purpose by the Company, viz., the captain, two pilots, and the surgeon, and by four other persons who were to be appointed by Van Hoorn and Co.

7. That any slaves required for the future must be paid for at the rate of 250 guilders per head; viz., 100 guilders in Amsterdam on the sailing of the slave-ship, and the remaining 150 guilders on the receipt of the slaves in Berbice, or according to such other conditions as shall be enforced by the Company elsewhere.

8. That the slaves ordered by Van Hoorn and Co. shall be transported to Berbice at the risk and cost of the Company.

9. That should the Company not be able to forward the slaves required by Van Hoorn and Co. according to agreement, that it shall be competent to Van Hoorn and Co. to equip the necessary vessels and cargo (under recognition of H. H. Mightiness) to procure the same, care being taken by the Company that no greater number of slaves shall be conveyed by such ship than that granted to Van Hoorn and Co.

10. That for the further security of the Company on the one side, and Van Hoorn and Co. on the other, certain mutual arrangements should be made that the Company should fulfil their part of the contract (under a penalty), and that Van Hoorn and Co. should (except according to Art. No. 9) not barter for or demand slaves

in any other way than through the West-India Company, and in accordance with their terms.

11. That since it has been understood that the colony of Berbice belongs to no other persons than to Van Hoorn and Co., the slaves sent thither shall be placed entirely at their disposal and pleasure.

12. That in the event of any or all of these parties being obliged to leave Berbice or abandon their properties, they shall have the power to carry away their slaves without any further payment, or to dispose of them to the best advantage.

13. That for each ship which shall be sent to Berbice by Van Hoorn and Co. the sum of 300 guilders shall be paid to the directors of the West-India Company, viz., 100 guilders on the departure of such ship, and 200 guilders on its return (besides the usual commissions), according to the practice of Surinam and the other colonies, save and except that Van Hoorn and Co. should be obliged to ship their sugar or other produce to the order of the Company.

14. That the first ship sent by Van Hoorn and Co. to Berbice shall not be required to pay the sum of 100 guilders, but the sum of two hundred guilders shall be exacted on its return, whether its cargo has been raised in Berbice or procured elsewhere.

15. That the above agreement shall continue in force as long as the octroi* of the West-India Company exists, &c.

These terms of agreement were drawn up in accordance with the extract from the register of the resolutions of their High Mightinesses of the States General of the United Provinces, and transmitted to the two parties for their acceptance and guidance.

FINANCIAL BODY INSTITUTED.

PUBLICATION.†

We, Anthony Beaujon, Governor in and over the Colony of Essequebo and Demerara and its Districts, and President in all Colleges, &c., &c., &c., and Councillors of the above-mentioned Rivers, &c., &c., &c.,

To all to whom these Presents shall come, Greeting.

* Charter.

† Under this act of the Court of Policy, the business of the Colony with regard to the electoral rights and the functions of the Representatives, was conducted until a Proclamation was issued by General Carmichael on the 7th of September, 1812, combining the Electors, or Kiezers, and the Financial Representatives into one College. This Proclamation, although not sanctioned or ratified by the King in Council, continued to be acted on with the force of Law until the year 1831, when it was specially rescinded by the Proclamation.

Know ye, that on the 23rd of June last year, by the at that time existing Government, for reasons by the publication proclaimed on the ensuing day, some arrangement and alterations had taken place concerning the administration of the Colony Funds, by which four members, commissioned from the Colleges of Electors of both rivers, were added to the Court of Policy, to have jointly the administration of said funds, and which arrangements were made provisionally under approbation of the Sovereign.

That since that time the situation of these colonies relating to the mother country had undergone a total change by their being surrendered to the commanders of his great Britannic Majesty's forces, from which the required approbation on the above arrangement relative to the administration of the colony funds can no longer be expected from our former Sovereign; and that, besides this, experience has learned that these provisional made arrangements (although concluded on with a good intention) are subject to many obstacles and retardation in the public administration, by which even the inhabitants who had legal pretensions against the Colony Funds remain after a long time deprived from obtaining their payments, as those could not be made them by general assemblies of this Combined College.

That, moreover, it is true that the respective electors have a power from the inhabitants to elect their representatives in this Court, and that of Justice; but that they never have been authorised by them, in preference to other inhabitants, to hold for their lives the administration of the Colony Funds, as seems to have been the intention of the elected department of the said funds; for which reasons we recal and annul the resolution of the Extraordinary Assembly of the Court of Policy of these rivers and districts of Essequebo and Demerary taken on the 3rd of June, 1795, to this effect: The said Councillors of Policy, combined with the electors, as then constituted, is, and shall be, null and void. Moreover, as we have taken into consideration the reasonableness and equity that the inhabitants of these colonies should be more amply represented at the raising of taxes than by a number of four colony members fixed by the constitutional laws of these colonies; and this being probably the intention and the motives of the former arrangements—at least it having some connexion with, or not foreign to the nature of the British laws in this case—we have thought proper to adjourn to the College of Governor and Councillors of Policy, with a right of voting only for the raising of colony taxes, and not further, six inhabitants, viz:—Three from the river of Essequebo, and three from Demerary, elected to that purpose by the inhabitants, in whom the power or commission shall remain invested for a space of two ensuing years, at the expiration of which a publication and advertisement from

governor and councillors shall be given to the inhabitants for the purpose of a new election.

We have further fixed the same mode of electing such members of the inhabitants entitled to vote as take place by the choosing of electors, so that, in consequence thereof, we have thought proper to advertise, as is done by these presents, that they who confirm the plan of redress in the politicq and judicial government of the colony, provisionally established by their High Mightinesses, are owners of a number of twenty-five slaves and thereabove, are competent and entitled to choose three representatives in their respective colonies to represent them by the raising of colony taxes.

That the election of those representatives for the first two years shall directly have place; so that, from this date thirty days forward, every inhabitant can give his vote, for the purpose of which a locked-up box will be placed during the term of said thirty days in the hall of Government House, Demerary, and Commandant of Essequebo, in which every person entitled as before may depose his vote, signed and sealed by him, and which box shall be opened by the Secretary in presence of the Governor, Commodore, and two Members of the Court of Policy, after the expiration of said time, being the 21st of July next; and the persons who are found to carry the majority of votes, be entitled to raise with the Court of Policy, for the term of two ensuing years, colony taxes, and to examine with them the accounts of the respective receivers; admonition being hereby given to whom it doth concern, to observe in the election of such representatives that they invest their interest in the hands of those who, from their connexions, will take the real welfare of the colony in general, and that of the inhabitants in particular, to heart; and that no one may plead ignorance thereof, these presents shall be published and affixed on such places as is customary, and further sent round the colony.

Done in the Court of Policy this 11th day of June, 1796, and published the 21st ensuing.

(Signed.) ANTHONY BEAUJON.

By orders of the same.

(Signed.) M. TINNE, Secretary.

Instructions for the Post-holders with the Indians in Essequebo and Demerary.

ARTICLE 1.—The Postholder shall keep an accurate journal of his proceedings; and of all the occurrences at the Post.

Article 2.—He shall transmit (quarterly) a copy of his journal to the Protector of his District.

Article 3.—In case of any extraordinary occurrence, at or near the Post, he shall immediately acquaint therewith the Protector.

Article 4. — He shall take care to keep the Post in good order; and he shall use his utmost exertions to attach to the Post the Indians who call upon him, or who live in his vicinity.

Article 5.—He shall endeavour on all occasions to prevent misunderstandings or quarrels between the several Indian tribes; and where any such exist, he shall exert himself to restore peace.

Article 6. — When required by the Protector, he shall be obliged to repair to him without loss of time, and to execute promptly any orders he may receive from the Protector.

Article 7.—He shall not permit any persons, whether whites, free-coloured, or negroes, to pass the Post unless they show him a Pass from the Governor or from one of the Protectors of the Indians, the latter being empowered to grant such Passes, which must always specify the reason why the persons therein named are to go beyond the Post.

Article 8.—If any person, not provided with such a Pass, should attempt to pass the Post, the Postholder shall be authorised, and is even obliged, to detain such person or persons, and to bring them to town before the Governor; at the same time giving notice to the Protector.

Article 9. — But to persons having a proper Pass, he shall give every assistance in his power towards forwarding the business they are upon.

Article 10.—He shall not be allowed to carry on any traffic, nor shall he compel the Indians to sell to him the articles they bring down, but he shall suffer them to proceed without any molestation whatever in their trade. Any articles bought from them he shall cause to be duly paid for.

Article 11.—He is on no account to compel the Indians to do any job or work of whatever nature for him.

Article 12.—He shall not take or appropriate to himself the property of the Indians, much less their wives or children, on pretence of their being indebted to him, even in case of an Indian having had goods from him on credit, and refusing to pay for the same. The loss arising therefrom to be for the Postholder.

Article 13.—Should any Indian apply to him with complaints of ill treatment against other persons, he shall repair with such Indian to the Protector, who will then examine and inquire into the complaint, and give redress if the case requires it. All exclusive of the action which the Fiscal might think proper to bring against the offender or offenders.

Article 14. — Any white or free coloured person about the

Post, who might be desirous to have an Indian woman to live with him, shall acquaint therewith the Postholder, who is then to wait on the Protector with such woman and her parents or nearest relations, in order that the Protector may be enabled to inquire and ascertain whether such co-habitation takes place with the free consent of the parties, and whether the woman be not engaged to some Indian—and the Protector is then either to sanction or to refuse such co-habitation as he may think right.

Article 15.—Should the Postholder be desirous of employing any Indians for clearing wood, or for fishing, or paddling his boat, he shall be at liberty to hire them for that purpose, with the consent of the Protector, who shall previously inquire whether such engagement has been entered into voluntarily, and who will at the same time inform the Indians that if they are not duly paid as agreed upon, they may complain to him.

Article 16.—He shall be present at the annual distribution of presents to the Indians.

Article 17.—He shall apply from time to time to the Protector for the rum he may want for the purpose of giving a dram to the Indians who call upon him.

Article 18.—In case of Indians passing the Post to go down the river, the Postholder shall recommend them to wait on the Protector.

Article 19.—The Court of Policy reserve the right of at all times altering and amending the present instructions as they may see proper.

Done the 18th May, 1803. A. MEERTENS.

By Command, P. F. TINNE, *Sec.*

Re-printed by order of the Honourable the Court of Policy, at its Session held at the King's House, Georgetown, Demerary, the 2nd of May, 1815.

By Command, CHARLES WILDAY, *Clk. Ct. Policy.*

Number of immigrants who have arrived in the colony of British Guiana from 1835 to 1840:

1835, and 1st Quarter of 1836, principally from Madeira . .	450
1836, 3 last Quarters	1427
1837	2150
1838*	1763
1839, Maltese and Germans.	400
1840. To the Voluntary Immigration Society about 2900, principally from Barbadoes, and about 70 from the United States	2970
Total, at private expense	9160

* The immigrants of 1835, '36, '37, and '38 were principally from the West India islands, including captured Africans from the Bahamas. In 1838 there arrived 560 Coolies from Calcutta.

A TABLE showing the number of Immigrants introduced into British Guiana under Colonial Bounty, and at the public expense from the establishment of the Immigration-office in January, 1841, to the 31st of December, 1852:

WHERE FROM.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	TOTAL.
St. Vincent	2	41	...	...	...	...	...	...	...	...	...	...	43
Barbadoes	2199	176	...	...	...	...	...	...	...	...	...	...	2375
St. Lucia	...	25	...	...	...	...	...	...	...	...	...	...	25
Dominica	91	...	...	...	...	...	...	...	...	...	...	...	91
Antigua	127	...	...	...	..	..	...	...	...	...	...	...	127
Tobago	3	2	...	...	...	...	...	...	...	...	...	...	5
Monserrat	14	122	...	...	...	...	...	...	...	...	...	...	136
Nevis	...	82	...	...	...	...	...	...	...	...	...	...	82
St. Kitts	47	21	...	...	...	...	...	...	...	...	...	...	68
Anguilla	259	52	...	...	...	...	...	...	...	...	...	...	311
St. Thomas	51	13	...	...	...	...	...	...	...	...	...	...	64
Madeira	4312	348	45	140	668	5,975	3825	255	...	1288	1401	1719	19,976
Sierra Leone	415	148	239	378	1425	278	457	610	...	698	...	73	4,721
Kroo Coast	...	...	...	...	...	...	108	...	...	106	...	66	280
St. Helena	...	1112	86	...	...	819	...	746	388	...	...	15	3,166
Rio Janeiro	578	563	...	145	...	...	...	...	102	...	...	113	1,501
Surinam	...	...	31	...	...	...	...	...	...	...	...	...	31
Madras	...	...	...	...	225	2,455	1717	2052	...	...	...	...	6,449
Calcutta	...	...	...	...	563	1,373	1654	1398	...	...	517	2779	8,284
	8098	2705	401	663	2881	10,900	7761	5061	490	2092	1918	4765	47,735

The following bounties are paid under an act of the local legislature for the regulation and encouragement of immigrants into British Guiana:

Names of ports or places from which immigrants may be introduced into the colony.	Rates of bounties allowed for the introduction of immigrants. DOLLARS.
Madeira	30
Azores, or Western Islands	25
Canary and Cape de Verd Islands	25
Curaçoa	20
Margarita and Spanish Main	20
St. Helena	25
Sierra Leone	25
Brazil	25
Havana	30
United States of America and British North America	30
China, or Chinese from any port east of Point de Galle in Ceylon, imported on board any vessel which shall clear for this colony prior to the 31st of March, 1853	100

Many thousands of acres of the finest virgin land lie untouched in British Guiana, and parties introducing immigrants are not only entitled to the above rates of bounty, paid in cash, but would also have the preference of their services as indentured labourers for terms not exceeding five years, on the gradual repayment of one-half of the bounty, provided, always, that it can be shown to the satisfaction of the local authorities that suitable preparation have been made for their location, as regards food, lodging, and medical attendance.

Report to his Excellency Henry Barkly, Esq., Governor and Commander-in-Chief in and over the Colony of British Guiana, &c., &c., &c.

The report of the commissioners appointed to inquire into and report upon the condition and prospects of the colony of British Guiana,

Respectfully showeth,—That your commissioners have proceeded to inquire into the condition and prospects of the colony, and have agreed to the following report:

Your commissioners will commence by stating, that for the purpose of pursuing their investigation in a manner suitable to the grave importance of the subject, they found it expedient to place distinct portions of the colony under the charge of separate commissioners, whose duty it was to obtain accurate answers to the printed questions prepared by the commission from every manager within their respective districts.

Your commissioners have also examined many of the principal owners and attorneys of plantations, as well as some of the leading merchants of the colony; and they have, moreover, been furnished with such official returns from the public offices as seemed calculated to aid the prosecution of their inquiries. From the body of evidence thus collected, it is with deep concern that your commissioners observe the alarming picture of ruin and distress in which all classes of the community with startling unanimity concur in representing the present state of this once flourishing colony.

Before entering at length into the consideration of the question submitted to them, your commissioners consider that it may not be unadvisable to take a rapid summary of the past and present condition of the colony, as well as to trace its progressive history as briefly as possible from the days of slavery until the present time.

The colony of British Guiana, consisting of the three counties of Demerary, Essequebo, and Berbice, was finally ceded to the mother country at the Peace of Paris, in 1814, by the King of the Netherlands. Its staple productions then consisted principally of coffee and cotton, which were cultivated to a very large extent. Labour was abundant, so much so that by the first registration, made in the year 1817, it appears that the number of slaves at that time amounted to 110,000 souls; and the planter obtained remunerative prices for his produce in the British market, the mother country sedulously protecting the fruits of his industry. Under this system the colony rapidly prospered, and its resources were developed by a liberal expenditure of British capital. The climate and soil being found to be singularly adapted to the cultivation of the sugar-cane, many of the cotton plantations were converted into sugar estates at a very great expense. This change in the cultivation was carried on to a very large extent for some years, in consequence of the great fall in the price of cotton, caused by the rapid increase in the culture of that article by the United States of America, where, in addition to an inexhaustible supply of labour, superior natural advantages exist for this species of produce. The cultivation of coffee, also, in this colony, from similar causes, gradually declined, so that when the prædial labourers were finally emancipated on the 1st August, 1838 (two years prior to the time contemplated and provided for by the imperial Act), the few estates which still continued in coffee and cotton dwindled away year after year, and the labourers located upon them were either absorbed into the gangs of neighbouring sugar plantations or became petty settlers on small lots of land. Thus commenced the pernicious system of what may be termed

licensed squatting, of which your commissioners will have occasion to speak more particularly hereafter.

With the decline of coffee and cotton in this colony, the tables of produce which your commissioners have caused to be prepared show a large increase in the manufacture of sugar. In the year 1829, which your commissioners have selected, as will hereafter appear, in contradistinction to 1849, for the purpose of showing the change which the vicissitudes of twenty years have effected upon the fortunes of the colony, the exports of British Guiana consisted of no less than 66,722 hhds. of sugar, besides 6,778,350 lbs. of coffee and 7272 bales of cotton. The cultivation of sugar continued to be carried on at a profit to the planter, and the exports averaged upwards of 66,000 hhds., until the proprietors of sugar estates, in common with others, received a severe blow by the premature termination of apprenticeship in 1838. The exports in 1839 at once fell off to 38,443 hhds. of sugar; and from that date to the memorable year 1846, they only averaged 35,949 hhds.

Undaunted, however, by repeated discouragements, the proprietors of estates made in the interval every exertion to retrieve their former position. They had not yet lost the confidence of capitalists at home, and vast sums of money were spent on re-establishing their cultivation. Immigrants from Africa, Madeira, India, and other parts of the world, were imported as field-labourers at enormous expense—every improvement in machinery was eagerly sought after and adopted—and the energy of the proprietary body at length bade fair to be rewarded by the returning prosperity of their country. In the midst of these pleasing anticipations came the Sugar Act of 1846, which at once prostrated the whole landed interest of the country, and has already been the total ruin of many a once opulent proprietor. Names, the highest and most influential, have followed one another in the *Royal Gazette* with ominous rapidity; and the estates of men formerly holding the first position in the colony have been successively brought to the hammer, and their owners absolutely beggared. The previous increase in cane cultivation caused larger crops to be reaped in the following years of 1847 and 1848, but the exports last year show a decrease of upwards of 9000 hhds. The colony still continues to retrograde—estate after estate is being abandoned—the labouring population are daily becoming more idle and disorganised—and it is the deliberate opinion of your commissioners that if the British West Indies are much longer exposed to their present competition with foreign slave-owners, without any alleviating measures being adopted, the great majority of estates, in this colony at least, will cease to be cultivated.

Your commissioners will now proceed to address themselves more particularly to the several points submitted to them by your excellency, and beg to report,—

FIRST.— *Upon the present condition of the agricultural districts of the colony generally.*

To judge of the prosperity or depression of an agricultural country, the first and most direct test is the extent of its cultivation and the amount of its produce as compared with former periods. Your commissioners have, therefore, drawn a parallel of twenty years; and the contrast between the condition of the colony in 1829 and its present state is melancholy in the extreme. In the year 1829 there existed 230 sugar and 174 coffee and cotton estates in British Guiana, of which almost the whole were in full cultivation; while on the 31st December last, the colony numbered but 180 sugar and 16 coffee estates, even nominally carried on. Of these a great proportion are on the verge of abandonment, and the coffee plantations hardly deserve to be reckoned in cultivation at all. The alarming difference in the crop of these two years will be seen at once from the following summary, which is compiled from the returns of produce sent in for taxation to the office of the colonial receiver general from every estate throughout the colony. The tables of exports also furnished by the comptroller of customs, show the same disheartening result, for on reference to them your commissioners find a diminution of no less than 28,811 hhds. of sugar, 6,677,800 lbs. of coffee, 7272 bales of cotton. It would be but a melancholy task to dwell upon the misery and ruin which so alarming a change must have occasioned to the proprietary body, but your commissioners feel themselves called upon to notice the effects which this wholesale abandonment of property has produced upon the colony at large. Where whole districts are fast relapsing into bush, and occasional patches of provisions around the huts of village settlers are all that remain to tell of once flourishing estates, it is not to be wondered at that the most ordinary marks of civilisation are rapidly disappearing, and that in many districts of the colony all travelling communication by land will soon become utterly impracticable.

CROP OF 1829.				CROP OF 1849.			
DISTRICT.	lbs. Sugar.	lbs. Coffee.	lbs. Cotton.	DISTRICT.	lbs. Sugar.	lbs. Coffee.	lbs. Cotton.
DEMERARY.				DEMERARY.			
East Coast	18,275,147	507,507	1,127,471	East Coast	17,106,384		
River—East Bank	7,029,974	1,394,024		River—East Bank	4,073,591	2,180	
River—West Bank	7,173,964	2,040,965		River—West Bank	3,526,292	51,049	
West Coast	13,878,095	507,627		West Coast	7,524,027		
ESSEQUEBO.				ESSEQUEBO.			
Leguan Island	10,905,911	6,800		Leguan Island	2,504,215		
Hog Island	1,092,000			Hog Island	332,152		
Wakenaam Island	9,363,934			Wakenaam Island	3,583,942		
Tiger Island	1,240,650			Tiger Island	387,182		
Troolie Island	174,000			Troolie Island			
West and Arabian Coast	22,518,656	101,866	89,798	West and Arabian Coast	9,227,412	300	
BERBICE.				BERBICE.			
Whole County	12,246,286	4,671,697	378,902	Whole County	12,546,657	37,527	
Total	103,898,617	9,230,486	1,596,171	Total	60,811,854	91,056	

GENERAL SUMMARY.

COUNTY.	lbs. Sugar.	lbs. Coffee.	lbs. Cotton.	COUNTY.	lbs. Sugar.	lbs. Coffee.	lbs. Cotton.
1829.				1849.			
Demerary	46,357,180	4,450,123	1,127,471	Demerary	32,230,294	53,229	
Essequebo	45,295,151	108,666	89,798	Essequebo	16,034,903	300	
Berbice	12,246,286	4,671,697	378,902	Berbice	12,546,657	37,527	
Total	103,898,617	9,230,486	1,596,171	Total	60,811,854	91,056	

Thus showing a gross deficiency between the two returns of—

lbs. Sugar.		lbs. Coffee.		lbs. Cotton.
43,086,763	...	9,139,430	...	1,596,171

To commence with the district of Abary, once blooming with fields of cotton, your commissioners find that the line of road is nearly impassable, and that a long succession of formerly cultivated estates presents now a series of "pestilent swamps," overrun with bush, and productive of malignant fevers. Following the coast from Mahaicony Creek to Mahaica Creek, Plantation Farm seems to be the sole estate left in cultivation, and the remainder are either given up to form a pasturage for cattle, or else totally abandoned with the exception of some few patches of reef land on which ground provisions have been planted. Proceeding still lower down, your commissioners find that the public roads and bridges are in such a condition, that the few estates still remaining on the upper west bank of Mahaica Creek are completely cut off, save in the very dry season ; and that with regard to the whole district, unless something be done very shortly, travelling by land will entirely cease. In such a state of things it cannot be wondered at that the herdsman has a formidable enemy to encounter in the jaguar and other beasts of prey, and that the keeping of cattle is attended with considerable loss, from the depredations committed by these animals. The people scattered in villages along this district support themselves principally on the produce of their own provision grounds, and also by hunting and fishing, while some few occasionally work on neighbouring estates; but taken as a body, their labour with regard to the staples of the country may be said to be nearly valueless. From the last official returns prepared by the Acting Commissary of Population, your commissioners find that from the Abary to Plantation Friendship, a distance of only thirty miles, there are no less than eleven villages, four hamlets, and twenty-two detached freeholds, containing 1521 houses, and a population of 6678 souls, who for the most part, led away by the temptations of an idle life, have withdrawn from their former occupation of resident labourers upon plantations, contributing their assistance only occasionally in particular descriptions of work, and never in a way to be much depended upon.

Your commissioners now approach what is generally considered the most flourishing district of the colony, usually denominated "the East Coast ;" and here it must be observed, that the extent of cultivation and amount of produce of many of the plantations equal that of former days. The following list will show the large crops made by some estates in this district last year:

	Sugar.	
Enmore	1,162,800 lbs.	All old cotton properties.
Annandale	924,000 „	
Lusignan	1,129,600 „	
Mon Repos	1,182,004 „	
Le Resouvenir	952,943 „	
Ogle	1,200,000 „	

A number of circumstances have occurred to render this part of the colony peculiarly favoured. The Demerary East Coast Railway intersecting it, has naturally attracted a large number of the labouring class, and villages have in consequence been formed along the line, containing a vast number of the population who have emigrated from other quarters of the colony, and who, as before stated, afford their labour occasionally, though not continuously, to the estates in that district. Its peculiar soil has enabled it to resist the effects of those heavy rains which have often proved disastrous to other parts of the colony, and above all, many of the plantations happening to be in the possession of wealthy capitalists, enormous expense has been gone to in their improvement and the development of their resources. This district, however, still feels most severely the want of continuous labour, and, in consequence, great competition exists for the services of the villagers on the coast, amounting to no less than 4677 people, who are able to dictate what terms they please to their employers, and rove from plantation to plantation in the most unsettled manner. Whether, with all the advantages the East Coast possesses, it will be able to extricate itself from the ruin now becoming so universal throughout the colony, is a problem which time alone can solve. The question rests, however, upon the line of policy to be pursued by the British Government with regard to the West Indies in general; for your commissioners are of opinion that few estates (if any) in this country, however favourably situated, can long continue to resist the tendency of the present free-trade measures.

Passing the city of George Town, in the suburbs of which are situated the following villages:

Albert's Town	containing	771
Newburg	„	879
The Lodge	„	1019

Making a Total of 2669 Freeholders.

your commissioners approach three of the finest estates in the colony. Plantations "La Pénitence," "Ruimveld," and "Houston." From their vicinity to town a supply of labour can always be obtained; but of the irregularity with which the villagers work, Plantation Ruimveld affords a convincing example. This

estate, in common with its neighbours, is almost entirely dependent on village labour, and the monthly number of field labourers on the pay list last year averaged 893. With this large number, a monthly average of only 3515 tasks was obtained, thus showing that each man on the pay list only worked $3\frac{836}{893}$ tasks *per month!* When it is considered that a task, or day's work, may be easily performed in six hours, what can show more strongly the uncertain and precarious nature of the work to which employers in this country are forced to submit?

Proceeding up the east bank of the river Demerary, the generally prevailing features of ruin and distress are everywhere perceptible. Roads and bridges almost impassable, are fearfully significant exponents of the condition of the plantations which they traverse; and Canal No. 3, once covered with plantains and coffee, presents now a scene of almost total desolation. The Haago Bosche seems the only estate left in cultivation in the canal, and that plantation, after formerly returning immense crops of coffee, last year yielded but 1400 lbs. Upon the long line of abandoned estates up this bank of the river, the system of squatting prevails to a very great extent; and difficult as it is to obtain accurate statistical information upon the subject, your commissioners have too much reason to fear that the number of settlers in this district who have almost wholly withdrawn from field labour amounts to more than 5000.

On the opposite bank of the river, from the ferry to Canal No. 1, a few estates still remain, which, from their vicinity to town affording them a supply of labour, and the spirited manner in which they are carried on, keep up a cultivation worthy of better times. Canal No. 1, however, with its sister, No. 2, exhibits in the strongest possible light the total ruin which has overtaken the coffee planters of this colony. In 1829 these canals contained thirty estates in coffee and plantains, producing 1,027,120 lbs. of coffee alone, and now there remain but eight which even keep up the semblance of a cultivation. Of these, five are rented out by negroes, and split up into endless fractions; while the whole coffee crop of British Guiana last year amounted to only 91,056 lbs., being a diminution of more than 100,000 lbs. from the crop made by *the single estate* "Java" in the year 1829!!! During the days of slavery, these estates contained on an average about 100 working people each, but now the villages formed along the canals harbour a dense and overcrowded population, whose labour is almost useless tc the community. The influx of strangers into the canals from various sugar estates has been very great during the last two years, and your commissioners are informed that at this moment they contain nearly 6000 people. Their mode of life is thus described

by Mr. Tighe, a resident coffee-planter, who has lived in Canal No. 1 for more than twenty years: "They live by renting plantain-land on estates, by working as day labourers on the few estates working, *and a great many by stealing coffee and plantains, the latter especially.*"

Ascending the river still higher, your commissioners learn that the district between Hobaboe Creek and "Stricken Heuvel" contained, in 1829, eight sugar and five coffee and plantain estates, and now there remain but three in sugar and four partially cultivated with plantains by petty settlers: while the roads, with one or two exceptions, are in a state of utter abandonment. Here, as on the opposite bank of the river, hordes of squatters have located themselves, who avoid all communication with Europeans, and have seemingly given themselves up altogether to the rude pleasures of a completely savage life.

On the west coast of Demerary but few estates have been abandoned, comparatively speaking. This district formerly contained thirty fine plantations, of which twenty-one are still nominally kept up; but the alarming diminution in crop may be seen at once on reference to the receiver-general's tables, which show that while a large coffee cultivation has entirely disappeared, the return of sugar has at the same time fallen off one-half. The want of labour is severely felt on this coast, which contains five villages and several detached hamlets, with a population of upwards of 1500 people pursuing the same idle and unprofitable mode of life as the great majority of their fellow freeholders throughout the colony.

Having thus reported upon the general condition of the various districts of the county of Demerary, your commissioners beg leave to call attention to the gradual diminution which has taken place in the amount of its produce for the last three years since the passing of the fatal Sugar Act of 1846:

COUNTY OF DEMERARY.

Year.	Sugar.	Coffee.	
1847	36,103,433 lbs.	..... 114,016 lbs.	No Cotton.
1848	33,362,830 „	..... 212,603 „	
1849	32,230,294 „	..... 53,229 „	

Your commissioners further beg to refer to the tables annexed, numbered nine and ten, showing the crops of each estate throughout the county for a successive period of years, commencing with 1829, as evidencing in the strongest manner the grievous falling off in the colonial staples for this division of the colony.

If the present state of the county of Demerary affords cause for deep apprehension, your commissioners find that Essequebo has

retrograded to a still more alarming extent. In fact, unless a large and speedy supply of labour be obtained to cultivate the deserted fields of this once-flourishing district, there is great reason to fear that it will relapse into total abandonment. As your commissioners consider that this division of the colony has suffered the most severely, they have added to the tables of crops the estimated value of each plantation within the county during the time of slavery, and up to the year of emancipation. The amounts were arrived at by doubling the values of the respective gangs of slaves, as appraised for compensation upon each estate; for it was formerly considered that the buildings and cultivation of a plantation were worth fully the slave gang located upon it; and your commissioners have no doubt they are quite within the mark in their estimation of the value of property up to 1832. With these figures before them, it is fearful to contemplate the enormous depreciation which has since taken place in West India property.

To commence with the island of Leguan at the mouth of the Rio Essequebo.

This fertile and beautiful island was for many years termed the garden of the colony, and formerly contained twenty-three sugar and three coffee and plantain estates, all of which continued in cultivation until within the last few years. At the present moment there are only eight plantations, which are even nominally carried on, and of these not more than three can be considered in full cultivation; while a large proportion of the remainder are on the very verge of abandonment. The appended table of the returns of produce from the sugar estates on this island, will show how it has progressively declined, while the values of the respective plantations, with their gangs of workmen in the days of slavery, afford a melancholy instance of the disastrous change in our colonial circumstances.

From the termination of apprenticeship in 1838, this island has severely felt the want of labour. As soon as the people were at liberty to move where they pleased, great numbers left Leguan, and became free settlers on the east coast and the banks of the Demerary river, in order to enjoy the greater facilities thus afforded them for communication with town. Then commenced the establishment of villages on the island itself, which quickly absorbed a number of the working people, for whom hunting and fishing have greater attractions than steady labour in the field. The general appearance of the island is thus summed up by Mr. John Mackenzie, of Plantation Amsterdam, who has been a resident planter for upwards of thirty years. "It is no overdrawn description, when I assert that its cultivation is now limited to one-third of its former number of estates, and these but struggling

desperately to avoid that doom which seems inevitable. Forest-trees rapidly taking the place of once smiling cane fields, and the few of the latter that are left, scarcely discernible amid a savage bush."

The island of Wakenaam does not appear in quite the same deplorable condition as Leguan; but although none of the estates in it were completely given up as on the 31st of December last, still a very large proportion are only in nominal cultivation. Your commissioners beg to call attention to a similar table to that prepared for Leguan, and here again the same symptoms of progressive decline are to be observed.

From these figures it will be perceived that, while the return of produce last year amounted to only 3,583,942 lbs. of sugar, this is a diminution of 5,779,992 lbs. from the crop of 1829. When your commissioners state that the system of freehold villages prevails in this island also, it cannot be wondered at that the want of labour is felt to a ruinous extent. Between Leguan and Wakenaam there are upwards of 2000 people living in villages, for whom the abandoned cane pieces afford excellent hunting-grounds, and, the surrounding waters abounding in fish, an easy means of subsistence.

Of the smaller islands in the mouth of the Essequebo, the appended table will give but a disheartening account

With regard to Hog Island, the cultivation formerly amounted to 858 acres, it has now dwindled down to 308, and in a similar manner the crop has sunk from 900 to 200 hogsheads of sugar. This island appears at present to be kept up almost entirely by the Coolies; and as their term of service expires in March, 1851, unless a fresh supply of labour be very soon obtained, there is every reason to fear that it will become completely abandoned.

The cultivation of Tiger Island has in like manner declined from 856 to 328 acres, and instead of a working population of 561, there remain but 125 Creoles and 189 immigrants. As the estates here are carried on principally by the latter class, it is evident that speedy immigration can alone save this island from total ruin.

Crossing over to the main land, your commissioners find the district between the Supenaam Creek and the Iteribissi Creek in the most deplorable condition. Here were formerly situated seven fine sugar estates, of which four nominally survive, but with a greatly diminished cultivation. Although the prostrate condition of this once beautiful part of the coast is to be attributed to the great scarcity of labour, the three villages of Dryshore, Warroosie, and Supenaam, contain a population of nearly 700 Creoles. The mode of life, however, pursued by these people, is thus described

by Mr. Seward, who has resided in the district for twenty-seven years:—"About one-fourth work at a time on the neighbouring estates, while the other three-fourths sit down, fish, hunt, and *steal*, both from the estates and one another." Favoured by a genial climate and a boundless fertility of soil, the peasantry of this country seem to care very little beyond satisfying their appetites, and sit down in silent apathy while plantation after plantation is growing up in bush all around them. Unable to obtain a supply of labour, the proprietors on this coast seem to be keeping up a hopeless struggle against approaching ruin, and unless immigration very soon commences, their estates must be abandoned.

In the district between the Iteribissi Creek and Capoey Creek, three coffee and ten sugar plantations formerly existed; and now the whole of the former and two of the latter have ceased to be in cultivation at all; while of the altered condition of the remainder the following summary will afford a most convincing proof:

Plantation.	1829. Sugar.		1849. Sugar.
Onderneening	347,000 lbs.	.....	193,650 lbs.
Bathsheba's Lust	432,651 „	.....	78,904 „
Zorg	709,500 „	.....	227,835 „
Golden Fleece	863,700 „	.....	387,000 „
Perseverance	415,937 „	.....	230,971 „
Cullen	561,396 „	.....	300,000 „
Hoff van Aurich	279,900 „	.....	96,000 „
Union	352,000 „	.....	156,000 „
Total	3,962,084 „		1,670,360 „

being a diminution of upwards of one-half.

While these estates were making the above crops in 1829, the population of the district amounted to about 2654 slaves, and 110 whites, making a total of 2764; but on the 31st of December last, the population on estates including managers, overseers, &c., was only 954. The number of villagers, however, amounted to more than 4000 people; but so little work is performed by them, that they can hardly be said to make any impression upon the labour-market of the district.

The once famous Arabian Coast, so long the boast of the colony, presents now but a mournful picture of departed prosperity. Here were formerly situated some of the finest estates in the country, and a large resident body of proprietors lived in the district, and freely expended their incomes on the spot whence they derived them. From Capoey Creek to plantation "Better Success," are situated twenty-one sugar plantations, three of which (Aberdeen, Three Friends, and Better Success) may be considered as virtually abandoned, while almost all the remainder

are in a very languishing condition. From the return of the produce and value of the estates in the mainland of Essequebo, it will be seen that the sugar crop alone has gradually dwindled away from 22,518,656 lbs. to 9,227,412 lbs.

The cause of the distress so severely felt here, seems to arise principally from the want of labour, which prevails to such an extent that estates, in the words of Mr. Hughes, of Anna Regina, "are going fast to ruin for want of a proper supply." The district swarms with villages; but no dependence whatever can be placed upon the people inhabiting them, and the estates have hitherto been worked principally by the Coolies. They are, however, now flocking up to town in great numbers, as the end of their engagements approaches, in order to claim their back-passage to India; and your commissioners learn with great regret, that the Creoles are also leaving the coast, in order to enjoy the advantages of a nearer proximity to town; so that unless a fresh supply of labour be soon obtained, Essequebo threatens to become abandoned for want of people.

The lower part of the coast, after passing Devonshire Castle to the river Pomeroon, presents a scene of almost total desolation.

Here were formerly situate seven estates in coffee, cotton, and plantains, representing in the days of slavery a capital of more than 176,000*l.*; all of which are now abandoned and almost valueless. Of the few people living in villages here, numbering about 250 souls, some cultivate their own provision-grounds, and thereby, in the words of Mr. William Henery, "obtain partial support, which they eke out by fishing and *thieving;* others go occasionally to the Essequebo coast, work for a month or two, then return and sit down in almost total idleness. Their working upon plantations on the coast is only however when sheer necessity impels. The young people are growing up in a state most dangerous to social order and the well-being of society."

Having thus completed the melancholy retrospect of the condition of Essequebo, your commissioners beg to refer to the return of produce for the last three years from that county, as showing the gradual diminution of the crops since the Sugar Act of 1846:

County of Essequebo.

Years.	Sugar.		Coffee.
1847	20,212,185 lbs.	.....	30 lbs.
1848	16,321,894 „	.....	500 „
1849	15,907,503 „	.....	300 „

The county of Berbice also suffers to an alarming extent from the want of labour. To such a degree has the system of squatting

in comparative idleness prevailed in this division of the colony, that your commissioners find that out of the 18,000 people comprising the rural population of the county, upwards of 12,000 are scattered over small freeholds and bush settlements far up the creeks and rivers, enjoying a state of savage freedom, and contributing in no way to the general welfare of the colony.

On the east coast of Berbice, from the Corentyne river westward to the Devil's Creek, were formerly situate six sugar and many cotton estates. Of these four still remain in sugar cultivation, all the cotton plantations having some time since been entirely abandoned. One of them, namely, plantation "Albion," was subsequently turned into sugar, and was considered a fine property, but is now languishing for want of labour. In this district is situated plantation "Mary's Hope," which formerly produced 900 hhds. of sugar, but is now quite given up. The buildings are crumbling into dust, and, save by a few squatters, the estate is totally uninhabited. The abandoned plantations on this coast, which if capital and labour could be procured might easily be made very productive, are either wholly deserted or else appropriated by hordes of squatters, who of course are unable to keep up at their own expense the public roads and bridges, and consequently all communication by land between the Corentyne and New Amsterdam is nearly at an end. The roads are impassable for horses or carriages, while for foot passengers they are extremely dangerous. The number of villages in this deserted region must be upwards of 2500, and as the country abounds with fish and game, they have no difficulty in making a subsistence; in fact, the Corentyne coast is fast relapsing into a state of nature. Owing to the want of roads, the magistrates' and sheriffs' courts are very irregularly held, the churches and schools are neglected, and a regular trade in smuggled spirits is carried on with the port of Nicarie, there being no sufficient coast guard stationed to prevent this illicit traffic. There is no police station or stipendiary magistrate resident in the district, and the people are living, as nearly as possible, in a state of lawless independence.

In the district between the Devil's Creek and Canje Creek were formerly situated twenty cotton estates. "The whole of the above district is now a wilderness," while, as may be expected, the roads are perfectly impassable.

Canje Creek was formerly considered a flourishing district of the county, and numbered on its east bank seven sugar and three coffee estates, and on its west bank eight estates, of which two were in sugar and six in coffee, making a total of eighteen plantations. The coffee cultivation has long since been entirely abandoned, and of the sugar estates but eight still now remain. They

are suffering severely for want of labour, and being supported principally by African and Coolie immigrants, it is much to be feared that if the latter leave and claim their return passages to India, a great part of the district will become abandoned. There are an immense number of people living in villages up this creek, and a small trade in fire-wood and timber is carried on by them, but their services as field-labourers upon the neighbouring plantations are extremely difficult to be obtained, and never for an instant to be depended upon.

On the east bank of the river Berbice were formerly twenty-two coffee and four sugar estates in full cultivation. The district for many years produced very large crops of coffee, but of this species of produce four plantations alone remain, and they are only nominally kept up. The chief cause of this wholesale abandonment of property, which has entirely taken place since the year 1838, was the want of labour produced by the withdrawal of the Creoles from the field. The six sugar estates now existing on this bank of the river are naturally very fine properties, and capable of making the largest crops; but owing to the scarcity of people to till the ground, they are now in a languishing condition. The intervening spaces between them are occupied by the abandoned fields of once beautiful coffee plantations, whose splendid works in most instances are still remaining as monuments of their former magnificence; but the want of labour and scarcity of means, so severely felt at the present moment, effectually preclude any attempt being made to restore their cultivation.

The plantations on this bank of the river are carried on principally by the African immigrants, and without them, in the opinion of Mr. Henery, "the six sugar estates in this district would have been abandoned long ago." While they are suffering to a ruinous extent from the want of labour, there are upwards of 4000 people living in villages within the district, a number more than sufficient amply to work the few estates which yet remain in cultivation; but under present circumstances, so gloomy is the condition of affairs here, that the two gentlemen whom your commissioners have examined with respect to this district, both concur in predicting "its slow but sure approximation to the condition in which civilised man first found it." Crossing over to the west bank, your commissioners find that the work of abandonment has been equally extensive on this side of the river.

Here were formerly twenty-nine coffee and plantain estates, besides three in sugar. At the present day there remain three sugar estates in full cultivation and two partially abandoned; while of the once magnificent coffee cultivation, there scarcely remains a trace. The returns of this species of produce, once

amounting to several million pounds, are now only nominal, and the whole county of Berbice hardly returns a tithe of what many a single plantation formerly produced. This district, in 1829, gave employment to 3635 registered slaves, but at the present moment there are not more than 600 labourers at work on the few estates still in cultivation, although it is estimated there are upwards of 2000 people idling in villages of their own. The roads are in many parts several feet under water, and perfect swamps; while in some places the bridges are wanting altogether. In fact, the whole district is fast becoming a total wilderness, with the exception of the one or two estates which yet continue to struggle on, and which are hardly accessible now but by water.

The west coast of Berbice was formerly a great cotton country, and included besides six fine sugar estates. The whole of the cotton cultivation has been long since abandoned, and of the sugar estates which still remain, three may be said to be partially given up. The want of labour is felt to an extent which it is hardly possible to estimate correctly, and although the estates working in this quarter have plenty of accommodation for workmen, the people obstinately refuse to tenant the vacant negro-yards, and seek in preference the settlements which swarm along this coast, where they cultivate a few ground provisions, and "spend their time," to use the language of Mr. Grant, "either in idleness and rioting, or in fishing and shooting." These people seem fast retrograding into a savage state, consistent with the wilderness which is growing up around them. Except in some of the best villages, they care not for back or front dams to keep off the water; their side-lines are disregarded, and consequently the drainage is gone; while in many instances the public road is so completely flooded that canoes have to be used as a means of transit. The Africans are unhappily following the example of the Creoles in this district, and buying land on which they settle in contented idleness; and your commissioners cannot view instances like these without the deepest alarm, for if this pernicious habit of squatting is allowed to extend to the immigrants also, there is no hope for the colony.

From the foregoing, it will be seen that the county of Berbice was formerly a great cotton and coffee producing district. What cultivation now remains is almost entirely sugar, but of the manner in which the crops have retrograded since the Sugar Act of 1846 the following return will show an example:

COUNTY OF BERBICE.

Years.	Sugar.		Coffee.
1847	16,091,655 lbs.	.....	2,975 lbs.
1848	14,867,133 „	.....	105,387 „
1849	12,546,657 „	.....	37,527 „

Your commissioners having now reported upon the present condition of the agricultural districts of the colony, and shown the misery and distress everywhere apparent upon the face of the country, will in the next place address themselves to—

The Social and Industrial Condition of the Labouring Classes in British Guiana.

The labouring population of British Guiana consists of two great classes—Creoles and Immigrants. The first may be divided into resident labourers on estates, and freeholders or squatters; the second into Africans, Portuguese, and Coolies. Of all the classes of people in this country, the native Creoles are by far the best adapted for raising the colonial staples, but, as has been already shown, the vicious practice of squatting, which seems at present the curse of the colony, has spread among them to such an extent that an overwhelming majority of their number have wholly withdrawn from the labour market. The entire population of the rural districts appears, from the returns of the Acting Commissary of population, to be as follows:

COUNTY.	Creoles resident on Estates.	Creoles non-resident	Africans.	Portuguese	Coolies.	Totals.
Demerary...	9,259	25,067	2,222	3,854	3,510	43,912
Essequebo...	8,432	5,432	1,191	1,164	3,843	20,062
Berbice	2,248	12,256	2,407	188	1,057	18,156
Total.....	19,939	42,755	5,820	5,206	8,410	82,130

Thus it will be seen that, out of the 82,000 composing the rural population, upwards of 42,000 people hardly contribute in any way to raise the staples of the country; while the whole number of immigrants, amounting to 19,436, is about equal to the resident labourers on plantations, making an entire total of 39,375 people as the agricultural peasantry of British Guiana. The system of freeholds (as it is called here) appears one of the crying evils of the day, and is, indeed, little better than licensed squatting. Where whole districts present but a scene of abandoned estates, it is very easy to purchase land for a trifling consideration; and thus, numbers combining, deserted plantations are bought up and villages quickly formed on their sites. There are great numbers also who, strictly speaking, "*squat*" up the rivers and creeks—that is, settle themselves on crown-land without any title whatsoever. The forests teeming with game, and the rivers with fish, afford them a plentiful subsistence; and the ground, with

very little tillage, yields an abundant supply of provisions. They carry on a small trade in fire-wood, charcoal, &c., but by far the greatest part of their time is spent in absolute idleness. The accounts your commissioners have received of the demoralisation going on in these negro villages is calculated to excite the deepest alarm, and rioting and debauchery seem to be but too prevalent among them. In many of the most populous villages, in the most thriving parts of the country, very significant signs of actual retrogression are plainly perceptible. Formerly the Creole had a taste for luxuries in food and dress, and would willingly work to earn the means of gratifying his desires; but now he seems content to go about with the least amount of clothing consistent with decency, and to be satisfied with the coarsest fare.

Great numbers of them, up the rivers and creeks, seem to shun as much as possible all intercourse with their more civilised neighbours, and especially with white men. Their dwellings, which are little better than savage huts, are built at a distance from the water's brink, and carefully shrouded by trees, so as to elude the observation of passing vessels. Thus they live in the bush, with scarcely a thought or a care for a moral or religious education of their children, who are growing up around them in a state of nature, and mostly stark naked. Although the country districts are well supplied with churches and schools, the religious observances of the people in several districts presenting these advantages are greatly neglected. The following table, prepared from the stipendiary magistrates' returns throughout the colony, will show the number of places of worship and of religious and general instruction in the rural districts:

Churches.	Chapels.	Sunday Schools.	Average attendance.
34	67	75	5993

Day Schools.	Average Attendance.
82	3863

The number of children appears to be as follows:

Resident Creoles.	Non-resident.	Africans.	Portuguese.	Coolies.
5372	16,780	1742	1331	880

making a total of 26,105 children of all classes, of whom only 5993 receive any religious, and 3863 any secular education whatsoever. With the progressive retrogression of the African race in this country the heathen superstitions of their ancestors seem to be gaining ground, and "Obeah" is practised to a much greater extent than is generally supposed. All the gentlemen connected with the landed interest whom your commissioners have exa-

mined concur in representing the idle and vicious mode of life pursued by the villagers, even in the most flourishing (comparatively speaking) parts of the colony. The depredations committed by them in the neighbouring plantain walks and cane pieces, and upon each other's lands, are almost inconceivable; nor is it possible in the present state of things to put a stop to the practice. The rate of wages, moreover, is so exorbitant, considering the small number of their wants, that in the words of Mr. McKenzie, of Amsterdam, "the agricultural labourer can support himself in ease and plenty on the produce of two days' labour, or the performance of two tasks of four or five hours' duration per week—the other portion of his time being zealously devoted to his amusements."

The labouring population of British Guiana residing on estates number, as has been said, 39,375 souls. Of these, 20,334 are women and children, leaving a balance of 19,041 strong able-bodied men. The average time required to perform a task, or day's work, ranges from five to six hours. For this the labourer exacts one guilder, equal to 1s. 4d. sterling; and so completely is he destitute of all ambition to better his condition by his own industry, that he is content to work two or three days in the week, and idle away the rest upon the wages he has thereby acquired. The number of tasks performed upon the various estates throughout the colony, as far as your commissioners have been able to ascertain, hardly averages ten per month, thus showing that more than two-thirds of the labourer's time are spent in perfect indolence.

These observations must be understood to apply principally to the native population; for the immigrants work much more continuously and steadily, although physically inferior to the Creoles.

At the present moment there are many estates carried on almost entirely by immigrant labour; and, as far as regards the Coolies, your commissioners have to report in a very favourable manner; 11,437 people from Calcutta and Madras have been introduced into this country since May, 1845; and although at first the Madras immigrants seemed a sickly, weak, and lazy race, and the mortality among them was very great, subsequent importations have replenished our fields with a fine body of labourers. Your commissioners look forward to the expected immigration from India as destined to save the country from approaching ruin; and unless the native of this country can in some way be induced to work, there is every prospect of the Coolie and Portuguese races supplanting the African in the labour market. The immigrants from Madeira, of whom there are upwards of 5000 in the country, are a very useful class of people. Excellent field labourers them-

selves, they also exercise an indirect influence upon the price of labour, by cheapening the commodities in use among the working classes, for a great number of them are hucksters—petty shopkeepers and traders. The Portuguese seem for the most part to prefer these occupations to field-labour; and their ambition is generally to save enough money to buy a license, stock a pack, and turn pedlars. The fortunes made by some of these people are perfectly incredible; and your commissioners could particularise various instances of parties coming from Madeira without a penny in the world, realising, after a few years' residence here, several thousand dollars. The Africans would, undoubtedly, be the best immigrants for this country if under a contract for a term of years, and those that have already arrived are a particularly vigorous, muscular body of men; but it cannot be disguised that they too readily fall into the bad habits of the idle native population, who often inveigle them away from their employers even whilst under indenture, but more particularly as soon as their engagements expire. They muster about 3820 souls, of whom 1740 are children. This number is, of course, too small to make any serious impression; and immigration from Sierra Leone is so uncertain and precarious, that it is to be feared British Guiana will never be adequately recruited from thence.

Where the supply of labour is so limited, and the field for its exercise so great, it is hardly a matter of surprise that the laws respecting the monthly engagements of agricultural labourers are hardly ever enforced. Employers are naturally afraid to bring their people before a magistrate for breach of contract, lest they should lose their services altogether. An attempt to enforce the law is too often met with a refusal to work at all; and the negroes are perfectly aware that if they leave the estate on which they may be for the time, their services will be eagerly competed for by the neighbouring managers. Added to this, the delays and want of substantial justice experienced in too many of the magistrates' courts, operate in a great number of instances as an effectual bar to any recourse being had to the relief, such as it is, afforded by the local ordinances. Again, the difficulty of identifying, or even tracing, a runaway labourer is almost insurmountable. "I conceive," says Mr. Brumell, "that there can be no strict enforcement of a contract between two parties, one of whom is known and responsible, and the other unknown and possessing only a cloth round his loins. The first intimation a planter receives of a breach of contract is the absence of the labourer; and when (if ever) he hears of him again, it is that he is in another district or county. Situated as the proprietors are, therefore, they are obliged to wink at the behaviour of their people,

knowing that on taking the slightest offence they will instantly leave and work elsewhere." To enter into minute calculations for the purpose of showing that sugar cannot be grown profitably in this colony under existing circumstances would be a needless repetition; but the appended Table, furnished by the Administrator-General of Demerara and Essequebo, as to estates under his management, illustrates the subject through the clearest light.

This return appears to your commissioners to afford an unanswerable proof of the condition of the landed interest at present. The estates referred to therein were all carried on by a public officer who could command the means required for properly conducting them; their administration was regulated by law, and every transaction respecting them closely scrutinised by a court of justice. Yet with all these advantages these estates, thirty-four in number, sank on an average 316,125 dollars during sequestration, without paying interest on mortgages or other incumbrances.

When the management of estates is attended with such a ruinous loss, it cannot be matter for surprise that the finest properties command only nominal prices in the market. Indeed, land at present seems to have no definite value; for those plantations which have changed hands of late years have almost invariably been bought in by the holders of mortgages or other liens upon them, and in many cases immediately abandoned, or else been purchased on speculation for trifling sums by parties who had no means to work them. Your commissioners beg to refer to the appended returns of estates which have been sold at execution by the Provost-Marshal of British Guiana, as showing in the strongest manner the enormous depreciation which has taken place in West India property since the year 1838.

The colony of British Guiana being purely agricultural, its commercial prosperity inevitably depends upon the state of the landed interest.

The foregoing Report has already represented the misery and ruin into which the planters of this country are plunged. It remains now but to tell of the stagnation of business necessarily caused thereby to the whole mercantile body. The two seats of commerce for the colony are the metropolis, George Town, and the town of New Amsterdam, in the county of Berbice, and in both these places the leading merchants are complaining most severely of the pressure of the times. Formerly a large and prosperous trade was carried on in estates supplies. This, owing to the wholesale abandonment of property, has dwindled away almost to nothing. The consumption of almost all kinds of im-

ported commodities has also been greatly reduced of late years, as compared with the period immediately following freedom and the termination of apprenticeship. Your commissioners beg to call particular attention to the remarks on this subject of Mr. Duncan M'Donald, a partner in the leading firm of George Anderson and Co. "For some time after the emancipation, up to, I may say, 1845, the labouring classes purchased largely of calicoes, muslins, clothing, boots, shoes, hats, and indeed dry goods generally, as also of malt liquor, hams, low priced wines (which were retailed very extensively by the Portuguese at 33⅓ cents per bottle), glassware, furniture, &c. During the period stated they evinced an eagerness for articles of improved comfort, and a desire to appear *respectable*. In the last three or four years various circumstances have combined to reduce the demand and consumption of articles not of luxury only, but of ordinary comfort. The labourers now usually confine their purchases to the very few and indispensable articles of clothing, and to articles of necessary food. The other portions of the community have also contracted their wants into a much narrower compass than in former years." The limited business now carried on in plantation stores is almost entirely for cash instead of the liberal credit formerly given, while almost all other description of sales are for ready money only. With the decline of the mercantile trade of Georgetown, the value of house property has fallen off upwards of 50 per cent., and it is to be doubted whether there are any business premises in the whole place that would sell at the present moment for one-half of what they would have realised four or five years ago. In the present state of trade the tonnage dues and pilotage fees on all vessels coming into port are felt to be excessive, and the amount of additional fees paid to the harbour-master is a subject which urgently demands legislative supervision. The commercial interest of New Amsterdam is, if possible, at a still lower ebb than that of Georgetown, for so large a portion of Berbice is abandoned that, comparatively speaking, few plantations remain in cultivation to be supplied from the merchant's stores. The value of house property in this town has become almost nominal, it being next to impossible to effect sales of this description, even for the most trifling sums. Hardly any shipping now frequent the port of New Amsterdam, and a great deal of the produce is sent down to Georgetown to be shipped from thence.

Your commissioners have now reported, somewhat at length, upon the present state of the colony of British Guiana, both as regards its agricultural and commercial interests. They now beg to call attention to the following statements, as showing how the whole value of the products of the country is swallowed up by the

labouring classes, without leaving any profit whatever to the proprietary body:

	Dollars.	
The total value of the staples of the country for 1849 is found to be		3,248,686
Of these, the productions not contributed by sugar estates amount to		171,966
Leaving a balance of		3,076,720
The colony last year produced in round numbers 38,000 hhds. of sugar, which being valued at 4 cents per lb., and the rum and molasses at 30 dols. per puncheon and 11 dols. per cask respectively, give the above sum of 3,076,720 dols.		
The calculation of the money required for wages to make a crop of 500 hhds. of sugar, with rum and molasses in proportion, is ascertained to be 2000 dols. per month, or 24,000 dols. per annum, which would require, to produce a crop of 38,000 hhds. . . . . dols.	1,824,000	
The other expenses may be estimated at 2-3rds the wages . . . ,,	1,216,000	
		3,040,000
Leaving a surplus of only . . .		36,720

to meet interest on capital, pay off debts, &c.

The produce of the sugar estates, making the above crop of 38,000 hhds., ought to be raised by the labour of 19,000 people, who would thus, allowing them to work on an average 274 days in the year, earn 288f., or 96 dols. each per annum ; whereas it is calculated there are more than double the number employed on the estates in British Guiana, who therefore should earn only about 144f. each. At the same time, there are upwards of 40,000 people who are residing in the rural parishes, and hardly work at all, unless it may be considered that by their occasional labour they contribute to produce the value of the other productions of the colony, which your commissioners have shown amount to only 171,966 dols., say:

	Dollars.
Fire-wood	2,433
Coffee	9,105
Hard-wood	124,850
Charcoal	25,657
Cocoa-nuts	4,100
Hides	3,061
Shingles	2,760
	171,966

Our rural population of 82,000, if they chose to work, are capable of producing annually 80,000 hhds. of sugar, with rum and molasses in proportion ; but, as has been before stated, less than half of their number can be induced to cultivate the sugar estates at all, and these, at the most, only do half work, so that three-fourths of the population are upheld by the labour that ought to be performed by the other one-fourth.

Again, the immigrants cannot possibly be working as they ought, for they alone, numbering as they do 19,436 souls, are sufficient to produce the whole sugar crop now made in the colony.

In the like manner the resident Creole population, nearly 20,000 strong, could of themselves raise the same crop. From all that your commissioners have been able to learn, it is probable that the immigrants have hitherto by their labour contributed to produce by far the larger quantity of the sugar crops of British Guiana, and if this really be the case, the idleness prevailing amongst the native population, who still remain located on estates, is at once clearly manifest.

The result of the whole amounts to this, that the entire labour which the planters of this country can muster out of a population numbering 82,000, of whom at least 50,000 are able-bodied people, is not equal to that of 19,000 steady and continuous workmen.

With reference to the foregoing statement of exports, and of the population by whom they are produced, the amount of imports into this colony must also be taken into consideration. These appear, by the returns from the custom-house for the year 1849, to be of the value of 658,140*l.* sterling, or 3,279,072 dols., being a surplus of 30,386 dols. over the whole exports of British Guiana of every description. Hence it is evident that the total value of the produce of the country is consumed within it.

This is easily accounted for by the fact of the cost of production being so exorbitant as to enable the labourers not only to consume largely themselves, but also to maintain in complete idleness branches of their families who are located in villages and other rural settlements. A great trade in provisions is carried on with the United States of America, upon which this colony is almost entirely dependent for food, notwithstanding that the villagers could with ease not only raise sufficient for home consumption, but could also supply the neighbouring islands. It might be thought that the duties imposed upon the importation of all articles of food would operate on the minds of these people as an incentive for cultivating the native roots and esculents ; but so deeply seated are their habits of indolence, that no inducement

can persuade them to take advantage of this field of honest industry so invitingly spread before them.

Your commissioners cannot take leave of this branch of the subject without reporting upon the almost total failure of the Métairie system, as endeavoured to be introduced into this country. A little coffee is indeed cultivated by the Métayers with tolerable success; but as regards sugar, the experiment may be said to have entirely failed. More than one fine property has been ruined by trusting to this method of cultivation, and in nearly every instance proprietors have been obliged to take back the fields from the farmers on account of their neglect and inattention. In theory the system is all that can be desired, and its failure, when sought to be reduced into practice, is attributable solely to the unfitness of the working classes to appreciate its advantages.

They are not yet sufficiently advanced in the social scale to feel the benefits which would result to them from the mutual relations of landlord and tenant, between employers and employed. The great cause of its want of success arises from the indolent and unsteady habits of the labouring population, with which your commissioners have had occasion already to find so much fault—not even the prospect of reaping a lucrative harvest can induce them to bestow anything like *continuous* labour upon their fields, which consequently soon get neglected, and in process of time are either abandoned or else taken over again by the proprietor of the estate. It is a melancholy and disheartening reflection that the Creole population of this colony, after enjoying for twelve years the blessings of freedom, should have risen so little in the social scale, and that they should be at the present moment in a state of positive retrogression.

Your commissioners have now faithfully and to the best of their ability reported upon the present state of this colony, both as regards its agricultural and commercial interests. They have endeavoured fearlessly to state the truth, and to disclose the real evils which are operating so injuriously upon the country at large. In the exercise of the grave and important trust committed to them they have felt it their duty unflinchingly to expose the unsatisfactory condition of the labouring classes; nor have they shrunk from giving an impartial account of the ruin and distress which has overtaken all classes of the community, at the risk, though it be, of sinking still lower the colonial credit with capitalists at home. In order to effect a cure, it is necessary first to probe the wound, and ascertain the real extent of the injuries which have been received; and it is much better that our fellow-colonists, as well as the mother country, should be openly made acquainted with the actual position of affairs rather than that our

circumstances should be glossed over to suit the views of those whose interest it may be to represent the colony in a flourishing state.

The cause of the present depressed condition of British Guiana is, in the solemn and deliberate opinion of your commissioners, as already expressed, *mainly* attributable to the fatal operation of the Sugar Act of 1846. Every symptom of a change for the better was apparent until then; the cultivation had been extended and the crops increased; the labouring population were working more steadily, and evinced signs of speedy improvement. That destructive measure, coupled with the want of early and sufficient immigration, inflicted a blow from which this colony has never recovered. Everything has retrograded from that moment, a great number of estates have been abandoned, and with the decline of the agricultural interest the condition of the lower orders has very sensibly deteriorated.

The momentous consideration next presents itself, what measures can be taken to save the colony ere it be too late.

As far as the Government of England is concerned, all that can be done is earnestly and solemnly to urge upon her Majesty's ministers the gross injustice of compelling the West India colonies to maintain an unequal competition in the home market with foreign slave states. The arguments showing the injustice and grievous impolicy of the late Sugar Act have been so often before the public, that your commissioners find it needless to repeat them here. They will content themselves with expressing their firm conviction that nothing but protective duties can enable the British West Indies to compete successfully with their foreign rivals. So long as slavery is permitted, and the slave trade continues, wages will never fall, in this colony at least, to that amount that will place the price of a free man's labour on an equal footing with the cost of the food and clothing of a slave, and the interest of the capital expended on his purchase. As to the argument that a free labourer will work better than a slave, and that therefore his services are so much more valuable, the foregoing report on the industrial habits of the peasantry of this country will afford an abundant refutation. The African has no desire to better his condition by the sweat of his brow; he is quite content to earn sufficient to satisfy his few and simple wants, and never thinks of amassing money by the fruits of his honest industry. It is therefore idle to pretend that the labour of this man is of equal value with the involuntary toil of the Cuban slave. The difference between the two is simply this, that the free labourer will never work more than sheer necessity compels him, whereas the slave is obliged to work to the extreme limit of human endurance.

In the hope that a beneficial change of policy on the part of the Home Government towards the West Indies may soon take place, your commissioners now proceed to suggest the remedial measures which this colony itself can adopt.

The progressive withdrawal of the Creole population from the cultivation of the staples, and the acknowledged insufficiency of the immigrant labour at present in the colony, clearly point out that a large and continuous stream of immigration is necessary to maintain British Guiana as a sugar producing country, and save the invested capital in estates here from eventual annihilation. Your commissioners do not hesitate to offer it as their opinion, that in the course of a few years, the native population will have almost entirely seceded from working on plantations, and that consequently their place will have to be supplied by the introduction of a totally new race of labourers. It is to be hoped that these may be induced to make this colony their home, and to render their best assistance towards producing the only staple which can be successfully cultivated here, for with the downfall of the sugar estates there is reason to fear every other interest, and every trace even of civilisation, will be swept away. It is possible, indeed, that with a superabundant supply of labour, and an advance in the price of cotton, the cultivation of that article might be resumed in this colony to some extent; but to look forward to this description of produce as the means of regenerating the country, would be utopian in the extreme. The loss of invested capital consequent upon changing the cultivation from sugar to cotton, renders the project impracticable. If, indeed, the sugar estates of this country could *first* be well supplied with labour, the abandoned districts on the coast might again be reclaimed and cultivated with cotton by the intervention of a large immigrant population, and an investment of capital for the purpose, on the part of the merchants of the mother country; but it is to sugar alone that this colony must look for the means of ultimate prosperity. Notwithstanding the vast number of estates which have been abandoned, there are buildings and machinery, of immense value in the aggregate, still in tolerable preservation; which might easily be restored, could labourers be procured to cultivate the deserted cane pieces.

The best description of immigrants would undoubtedly be Africans; but your commissioners despair of this country ever procuring an adequate supply from Africa under the present system, and they would therefore earnestly recommend that every exertion should be used to obtain a speedy and abundant stream of immigration from India. If Coolies can be induced to come here in sufficient numbers, and remain here, the agricultural in-

terest might yet rally; but it is essential that no time should be lost in their immediate importation. There are many matters of internal economy respecting which your commissioners might respectfully suggest improvements, but as the very existence of the colony as a civilised community depends upon immigration, they will dismiss all other considerations with a few brief remarks, and content themselves with urging upon the serious attention of your excellency and the legislature this one all important subject, as beside it all others sink into complete insignificance.

With immigration once obtained on a suitable footing, local improvements will attend, as a matter of course, the progressive prosperity of the colony. The greatest natural impediment to the colonial agriculture is defective drainage, mainly caused by an insufficient outfall. This may be remedied by the judicious application of steam-power, and doubtless when the credit of the colony is raised with capitalists at home, funds may be procured to effect this great good; but at present it is quite out of the question. The laws regulating roads and bridges seem also to require legislative supervision; for the manifest injustice of requiring the proprietor of each estate to keep up the line of road running through his property, whatever may be the length of its façade, has become clearly perceptible since the number which have been abandoned of late years. Your commissioners would respectfully suggest the establishment of parochial rates to maintain the public roads. Among the most important requirements, however, of the colony at large are the introduction of stringent laws tending to the encouragement of honest industry, and the suppression of idleness and vice among the lower orders. For this purpose a binding vagrant act is urgently needed, as well as a trespass law, which would prevent the people from wandering where they pleased and earning a subsistence by shooting, fishing, and stealing on the lands of their neighbours.

Your commissioners will not touch upon the subject of education, as that great question is undergoing the consideration of an official board appointed by your excellency for the purpose; but it is obvious that with the advancement of religious and moral instruction among the labouring classes the better citizens will they become, and the more useful and industrious members of society.

Your commissioners have now concluded their labours, and if in this report they have trespassed at a greater length than is customary, they venture to hope that the grave importance of the questions submitted to them will prove a sufficient excuse. In conclusion, they beg leave to add that this report, although, from various causes, only now adopted, was drawn up in the month of

June last, which will account for the allusions contained in it to certain topics which have since engaged the attention of the Legislature.

All which is very respectfully submitted, &c.

(Signed) PETER ROSE, Chairman,
JAMES STUART,
RICHARD HAYNES,
SAMUEL BEAN,
GEORGE BOOKER,
WILLIAM BRAND,
ROBERT R. CRAIG,
A. D. V. GON. NETSCHER,
THOMAS NIMMO,
FREDRICK VERBEKE,
COLIN SIMPSON,
WILLIAM DAVISON.

J. LUCIE SMITH, Secretary.

Guiana Public Buildings, Georgetown, Demerary, December 28, 1850.

The following extract from a Despatch written by his Excellency Governor Light, to the Marquis of Normanby, in June, 1839, *is the Authority upon which the Statement is founded of the Sale of Estates previously to* 1810.

Plantation Zeelandia, in Essequebo, was sold in 1838 for 42,000*l.*, but the day following the proprietor begged to be permitted to recal his assent. Plantation Alness, in Berbice, sold in 1839 for 28,000*l.*, its former value. Plantation Thomas, in Demerara, sold seven or eight years ago for 9000*l.*, and has since been sold for 20,000*l.* Plantation Vrow Anna, Essequebo, sold in 1839 for 35,000*l.*, its full value. Plantation Aberdeen, Essequebo, sold in 1839 for 20,000*l.*, a larger price than eight or nine years ago. Plantation Friendship, Demerara, (cotton and plantain), sold in 1839 for more than in 1833. Plantation Windsor Forest, Demerara, sold for 42,000*l.*, its full value. Plantation Profit sold for an equally large sum.

In contrast to this short table, we will annex the following list of estates sold at private bargain and at execution sale, principally gathered from a clever pamphlet written by an experienced colonist, Dr. Rankin, entitled, "Thoughts on British Guiana:"

List of ESTATES sold by private bargain in Demerara from 1838 to 1846.

Date.	Name of Plantation.	Price.	Value during Slavery.
1838	Anna Catherina	£30,000	£50,000
,,	Providence	38,000	80,000
,,	Thomas	20,000	40,000
1840	Windsor Forest	45,000	85,000
,,	Rome and Houston . . .	40,000	100,000
,,	Montrose	38,000	55,000
,,	Ogle	26,000	45,000
,,	Le Resouvenir	30,000	50,000
,,	Success	30,000	40,000
,,	Belair	20,000	40,000
,,	Kitty	26,000	60 000
,,	Wales	26,000	50,000
,,	Vriedenhoop	26,000	60,000
,,	William	18,000	40,000
1844	Groenvelt	10,000	35,000
1845	Baillie's Hope	7,000	50,000
,,	Vriedestein	4,000	30,000
1846	Haarlem	3,500	50,000
,,	Goed Fortuin	1,700	35,000

Annual Revenue and Annual Expenditure of Demerara and Essequebo.

Year.	Expenditure.	Revenue.		Year.	Expenditure.	Revenue.	
	£	£			£	£	
1821	52,070	45,000		1839	102,538	104,215	
1822	48,181	46,161					Stoppage of the supplies this year.
1823	49,434	24,036		1840	105,447	78,974	
1824	89,332	75,800					
1825	49,776	59,629		1841	199,310	227,468	
1826	61,150	43,669		1842	237,759	243,985	
1827	64,339	52,801		1843	182,026	186,265	
1828	54,252	54,702		1844	141,608	171,563	
1829	64,030	60,258		1845	183,911	181,459	
1830	62,710	66,558		1846	251,516	215,905	
1831	54,140	45,276		1847	229,453	213,114	
1832	42,494	46,548					Stoppage of the supplies from Oct. 1, 1848, to Aug., 1849.
1833	38,997	47,273		1848	161,770	169,506	
1834	45,923	81,317		1849	112,940	103,374	
1835	55,075	53,059					
1836	97,371	87,885		1850	182,617	186,693	
1837	...	...	Not ascertained	1851	193,352	203,001	
1838	95,064	109,29		1852	227,070	218,014	

Revenue and Annual Expenditure of Berbice.

Year.	Expenditure.	Revenue.	Year.	Expenditure.	Revenue.
1827	£21,479	£15,821	1836	£16,575	£18,196
1828	14,126	13,998	1837	18,036	22,035
1829	16,971	22,184	1838	...	...
1830	16,783	21,229	1839	54,253	50,901
1831	15,646	11,994	1840	36,703	22,236
1832	15,481	9,805	1841	After this date the annual revenue and expenditure were included in the estimates of Demerara and Essequebo.	
1833	16,331	23,239	1842		
1834	18,503	20,847	1843		
1835	16,634	14,208	1844		

TABLE showing the number of Prisoners in the Gaols of Demerara and Essequebo.

Year.	Number of Prisoners.			Year.	Number of Prisoners.		
	Male.	Female.	Total.		Male.	Female.	Total.
1828	107	22	129	1834	1492	1021	2513
1829	54	14	68	1835	...	...	...
1830	67	9	76	1836	1834	577	2411
1831	77	37	114	1837	...	...	...
1832	97	22	119	1838	1720	406	2126
1833	126	30	156				

TABLE showing the number of Prisoners in the Georgetown Gaol.

Year.	Number of Prisoners.	Year.	Number of Prisoners.
1840	1285	1847	1799
1841	1503	1848	2662
1842	1610	1849	2144
1843	1686	1850	2202
1844	1427	1851	1841
1845	1554	1852	1622
1846	2061		

Number of Prisoners in the Gaols of Berbice.

Year.	Number of Prisoners.			Year.	Number of Prisoners.		
	Male.	Female.	Total.		Male.	Female.	Total.
1828	166	50	216	1834	261	135	396
1829	219	54	273	1835	...	...	...
1830	...	...	...	1836	214	130	344
1831	19	1	20	1837	372	158	530
1832	328	124	452	1838	178	71	249
1833	31	1	32				

Imports and Shipping of Demerara and Essequebo.

Year.	No. of Vessels.	Tonnage.	Men.	Value.
1823	370	68,576	3946	£580,929
1824	365	65,562	3650	663,634
1825	...	.....	...	.....
1826	412	70,739	4078	550,747
1827	517	85,445	...	743,462
1828	537	85,077	5157	709,805
1829	589	82,805	5590	804,408
1830	567	89,240	5230	734,528
1831	601	89,760	5381	664,539
1832	571	84,166	5003	505,803
1833	633	93,809	5554	541,438
1834	630	90,221	5377	591,438
1835	672	95,039	5687	589,103
1836	548	96,109	5245	853,628
1837	532	90,431	5231	954,113
1838	536	94,824	5461	1,038,653
1839	501	81,293	4689	1,184,095
1840	567	93,211	5413	1,053,501
1841	662	98,386	5506	1,031,011
1842	518	98,089	4529	651,056
1843	591	97,017	5344	785,907
1844	549	87,643	4784	633,615
1845*	706	109,984	6073	841,986
1846	632	97,624	5363	1,144,176
1847	611	93,762	5233	799,093
1848	786	110,720	6278	718,885
1849	704	108,074	7128	658,140
1850	751	111,773	7486	785,157
1851	671	111,771	7247	855,419
1852	668	115,930	5876	964,986

* Imports and shipping of Berbice included from 1845.

Imports and Shipping of Berbice.

Year.	No. of Vessels.	Tonnage.	Men.	Value.
1822	204	15,991	1809	£92,598
1823	181	15,261	1008	95,762
1824	181	16,204	1623	93,597
1825	...	...	...	...
1826	190	15,113	1057	117,650
1827	218	18,917	1145	113,869
1828	229	19,733	1366	131,545
1829	221	19,161	1338	131,778
1830	...	...	...	...
1831	342	21,208	1385	161,177
1832	318	25,790	1725	172,931
1833	289	23,073	1573	133,379
1834	286	20,571	1459	111,695
1835	314	24,879	1755	119,563
1836	173	22,516	1340	127,350
1837	126	18,689	1112	180,419
1838	153	22,630	1385	224,361
1839	128	17,979	1000	219,805

Tables Illustrative of the Schools in British Guiana.

RELIGIOUS DENOMINATION.	Number of Schools.	Schools where fees are demanded to increase the income of the teacher.	Schools where fees are demanded only to meet school expenses.	Schools entirely free.	Not ascertained.
Church of England . .	44	25	6	13	0
Church of Scotland . .	15	9	0	5	1
Church of Rome . . .	4	0	1	3	0
Wesleyans	15	15	0	0	0
London Missionaries. .	23	19	0	2	2
Independent Dissenters.	14	14	0	0	0
Plymouth Brethren . .	5	4	0	1	0
Episcopalian Methodists	2	2	0	0	0
Total	122	88	7	24	3

DISTRICTS.	Population, exclusive of settlements unable to support schools.	Number of children.		Number of schools.		Number of children.		Proportion that the average daily attendance bears to the number of children between 5 and 15.
		Under 5 years of age.	Between 5 and 15.	Poor schools.	Other schools.	On the books of the school.	Average daily attendance.	
Georgetown, including the Lodge and a few estates	26,210	3,139	6,032	12	23	2,706	1,986	32·924
East Bank, Demerara	5,662	597	1,068	9	0	545	309	28·932
West Bank, „	8,762	854	1,538	9	1	761	548	35·630
West Coast, „	7,679	709	1,132	5	0	565	355	31·360
East Coast, „	23,221	2,464	3,940	21	0	2,145	1,500	38·071
West Coast, Berbice .	4,230	620	1,042	7	0	465	370	35·508
New Amsterdam, including Stanley Town and Smythfield	4,800	521	1,125	5	2	414	253	22·488
East Bank, Berbice .	4,648	528	874	6	0	423	302	34·553
West Bank, „	3,070	383	681	4	...	315	212	31·130
Canje Creek, „	4,450	567	892	5	3	357	217	24·327
East Coast, „	3,512	426	821	7	0	437	363	44·214
Leguan	3,453	412	717	6	0	313	189	26·359
Wakenaam	4,178	402	860	4	2	222	175	20·348
Hog Island	283	35	48	1	0	33	28	58·383
Fort Island	147	17	36	1	0	20	15	41·666
Arabian Coast, Esequebo . . .	13,800	1,774	2,905	15	1	1,130	771	26·540
Pomeroon	...	...	...	1	...	26	23	...
	118,105	13,448	23,711	118	32	10,877	7,616	

TABLE of Produce Shipped to Holland and Zealand from Demerara and Essequebo.

YEARS.	SHIPS.	SUGAR.	COFFEE		COTTON.
		hhds.	tierces.	bags.	bales.
1745	2	1219			
1746	2	1342½	...	1	
1747	2	559½			
1748	4	2292	...		
1749	8	3579½	...	1	
1750	5	2529	...	1	
1751	4	1445	...	2	4
1752	6	2606½		1	1
1753	1	447½			
1754	2	285			
1755	No recorded account.				
1756	3	1918½	8	...	3
1757	3	1594			
1758	2	859½			
1759	No recorded account.				
1760	7	878	45		
1761	6	1177	...	274	50
1762	10	2988¾	43	238	10
1763	8	2919¼	19	664	4
1764	8	2956½	31	211	2
1765	8	3678½	56	881	18
1766	9	4120	37	2,532	101
1767	10	4745¼	72	2,748	84
1768	7	2896½	166	2,510	66
1769	9	3530½	491	2,715	312
1770	8	5795	499	1,603	337
1771	13	3127	641	3,538	162
1772	9	3338	550	4,740	128
1773	12	3775	1001	8,613	181
1774	17	5225½	1327	14,649	307
1775	21	4927¼	2317	19,090	.189
1776	15	3965½	1081	10,134	1012
1777	17	3142½	1866	20,309	1166
1778	27	6920½	1839	32,634	1754
1779	24	5899¼	927	25,234	2868
1780	22	4000½	1437	40,023	2730
1781	7	1602½	460	10,250	756
1782	No recorded account.				
1783	Do.	do.			
1784	24	3980	703	28,078	1883
1785	15	4995½	440	12,383	1039

RETURN of the Produce of Demerara and Essequebo, from 1810 to 1824.

DEMERARA.

YEARS.	SUGAR.	RUM.	MOLASSES.	COFFEE.	COTTON
	lbs.	gals.	gals.	lbs.	lbs.
1810	9,222,659	471,365	...	19,248,210	5,821,776
1811	...	...	...	6,167,289	
1812	12,351,979	815,131	...	6,967,289	4,322,453
1813	13,597,072	847,081	...	2,951,555	2,408,265
1814	12,780,282	722,146	...	7,431,926	5,494,416
1815	18,657,091	965,012	...	18,270,436	3,844,690
1816	19,866,713	898,009	...	11,254,206	3,393,980
1817	22,787,125	946,106	522,988	5,370,418	3,846,889
1818	24,037,418	1,025,032	501,068	9,855,717	4,498,591
1819	33,009,248	1,445,465	526,252	3,033,410	2,485,483
1820	35,128,107	1,679,031	333,351	4,160,133	2,266,273
1821	30,855,407	1,433,574	306,572	9,898,297	2,482,127
1822	32,023,713	1,390,667	525,266	6,437,881	3,543,514
1823	36,962,174	1,265,035	1,123,667	5,986,435	2,065,957
1824	34,930,396	1,093,931	1,379,166	4,735,531	1,874,147

ESSEQUEBO.

YEARS.	SUGAR.	RUM.	MOLASSES.	COFFEE.	COTTON.
	lbs.	gals.	gals.	lbs.	lbs.
1810	13,349,590	600,340	...	2,269,926	1,293,632
1811					
1812	16,317,354	843,035	...	687,134	399,711
1813	16,758,414	843,286	...	614,149	267,585
1814	18,526,224	955,523	...	919,585	529,481
1815	21,865,329	1,026,806	...	1,586,843	560,298
1816	24,246,068	1,058,886	...	602,411	426,532
1817	30,462,555	1,169,161	547,151	935,454	536,048
1818	30,095,438	1,283,389	437,121	818,827	584,683
1819	33,781,912	1,356,558	485,499	440,990	228,502
1820	35,467,584	1,551,917	407,687	278,778	150,250
1821	31,279,222	1,284,238	313,200	709,359	322,499
1822	33,025,734	1,336,067	574,017	382,455	162,445
1823	37,859,359	1,152,981	1,117,366	391,588	178,161
1824	34,422,882	1,027,721	1,137,526	255,958	175,168

TABLE showing the Quantity of Rum (gallons) imported into the United Kingdom from British Guiana.

YEARS.	DEMERARA.	BERBICE.	YEARS.	DEMERARA.	BERBICE.
1808	132,441		1817	992,981	14,298
1809	353,374	20,355	1818	835,553	18,896
1810	98,442	6,193	1819	981,138	28,190
1811	222,612	1,866	1820	1,529,088	27,935
1812	532,819	23,139	1821	1,297,764	63,536
1813	1,041,665	16,420	1822	1,193,556	32,668
1814	981,768	44,244	1823	941,195	74,221
1815	794,804	25,275	1824	930,132	44,393
1816	515,295	8,997			

A RETURN of SUGAR, RUM, MOLASSES, COFFEE, COTTON, and other Productions of the Colony of British Guiana, exported therefrom, from the year 1827 to the year 1849, both inclusive.

FROM THE COUNTIES OF DEMERARY AND ESSEQUEBO.

YEARS.	Sugar.	Rum.	Molasses.	Coffee.	Cotton.	Firewood.	Hard-wood.	Charcoal.	Cocoa nuts.	Horns.	Plantains.	Hides.	Spars.	Wallaba Shingles.
	hhds.	puns.	casks.	lbs.	bales.	cords.	logs.	packages.	No.	No.	bunches.	No.	No.	No.
1827.....	58,354	20,267	26,138	2,907,150	12,621									
1828.....	56,364	18,903	27,226	2,347,650	6,883									
1829.....	60,060	23,311	21,434	2,965,050	5,148									
1830.....	59,208	28,884	19,585	5,025,256	3,695	714	26	...	66,060	2300	650	1218	394	138,000
1831.....	55,783	28,113	25,153	1,349,762	1,838	373	271	...	76,300	1500	...	1542	1534	
1832.....	52,319	16,935	35,986	1,277,799	2,124	113	127	...	87,400	450	...	2417	1135	225,000
1833.....	55,333	15,837	40,335	4,429,282	2,069	564	913	...	59,994	1510	2,450	1426	2633	833,000
1834.....	48,489	17,356	31,125	1,102,200	2,118	749	1984	...	67,865	...	...	1562	2022	82,000
1835.....	56,233	21,836	24,958	1,299,080	1,476	558	341	...	76,280	170	...	1094	442	150,000
1836..... ..	56,236	19,722	33,343	1,307,700	2,220	653	1678	...	60,010	1010	...	2007	671	192,000
1837.....	51,999	14,093	27,706	1,206,900	1,765	577	255	...	53,150	1645	400	2744	40	268,000
1838.....	43,077	14,654	22,243	1,527,600	1,210	745	234	...	32,181	...	...	3707		
1839.....	30,049	11,983	10,693	515,700	1,013	336	591	...	69,054	1060	...	1344	15	48,500
1840.....	33,628	18,604	14,103	1,531,350	271	100	1232	...	77,364	750	12,000	2118		
1841.....	27,804	9,102	13,952	568,920	160	739	1905	...	66,060	960	...	2437		
1842.....	28,899	8,677	14,081	1,372,650	40	504	1577	...	83,139	3960	450	3481	...	102,300
1843.....	28,850	7,243	20,004	428,800	8	497	1434	573	71,010	300	300	3345	108	80,000
1844.....	30,721	9,946	17,203	716,137	...	596	210	435	50,790	3100	...	2569	100	178,000
1845.....	31,167	13,072	12,583	189,375	...	391	1067	215	106,009	...	400	2008	...	165,000
1846.....	21,286	7,703	12,056	59,175	...	1051	1405	1,571	131,865	...	100	1569	...	83,000
1847.....	36,676	15,763	9,669	130,800	...	1141	2687	2,983	466,530	5650	34,900	2990	78	335,000
1848.....	35,137	20,472	6,980	83,375	...	1907	3825	3,567	256.139	...	...	2951	...	635,750
1849.....	30,420	14,073	10,882	69,940	...	1338	4985	25,657	98,369	1100	...	2603	...	920,200

Custom House, Georgetown, Demerary,
6th February, 1850.

CHRISTOPHER BAGOT, *Compt.*

A RETURN of SUGAR, RUM, MOLASSES, COFFEE, COTTON, and other Productions of the Colony of British Guiana, exported therefrom, from the Year 1827 to the Year 1849, both inclusive.

FROM THE COUNTY OF BERBICE.

YEARS.	Sugar.	Rum.	Molasses.	Coffee.	Cotton.	Firewood.	Hard-wood.	Charcoal.	Cocoa nuts.	Horns.	Plantains	Hides.	Spars.	Wallaba Shingles.
	hhds.	puns.	casks.	lbs.	bales.	cords.	logs.	packages.	No.	No.	bunches.	No.	No.	No.
1827.....	7,459	2140	2729	1,312,200	3283									
1828.....	7,330	3004	1513	2,578,650	3921									
1829.....	6,662	3120	648	3,813,300	2124									
1830.....	9,831	4517	1124	4,447,500	1728	...	500	...	...	...	...	340	...	8,000
1831.....	9,975	4937	2206	2,480,700	1732	33	1,100	...	...	...	3,940	320	...	30,000
1832.....	11,258	5047	4356	1,508,100	1706	79	2,020	...	5200	214	17,550	445	...	50,000
1833.....	8,470	2240	4456	1,490,250	1630	234	19,122	...	2295	125	300	426	6	64,000
1834.....	6,738	2190	2288	1,637,900	1188	115	14,462	...	2900	133	17,575	172		
1835.....	11,015	5311	2202	2,102,700	843	24½	50,226	...	...	455	4,810	185	...	98,000
1836.....	12,036	4904	4745	2,684,900	976	16	17,141	...	...	...	...	513		
1837.....	10,514	3509	3723	1,776,600	745	179	7,088	...	...	...	...	445		
1838.....	11,366	3776	3263	1,700,050	593	186	6,700	...	700	740	...	645	...	4,500
1839.....	8,394	4087	1441	1,263,300	351	329	7,669	...	...	...	...	366		
1840.....	7,026	2594	1896	1,825,950	60	360	21,148	...	1900	300	...	544		
1841.....	6,395	2016	2227	519,750	10	502	17,300	...	1813	...	...	571		
1842.....	7,312	1954	3813	804,470	...	160	15,640	...	...	...	...	248		
1843.....	6,888	1053	4953	999,300	16	243	10,949							
1844.....	8,278	1760	4474	774,600	...	73	5,189	...	...	...	...	88		
1845.....	8,480	2067	4180	312,525	...	67	1,500	...	840	...	...	375		
1846.....	4,915	1081	2549	43,275	...	258	32,900	...	...	...	...	491		
1847.....	10,532	2720	3947	58,590	...	30	8,489	...	...	110	...	564		
1848.....	11,473	3418	2736	98,325	...	42	6,000	...	1700	...	...	231		
1849.....	7,491	1330	4850	30,610	...	95	450	...	300	..	...	458		

RETURNS of Produce since 1829, and Values of Estates in this District before Emancipation:

ISLAND OF LEGUAN.

NAME OF PLANTATION.	SUGAR.									Value of Property from 1829 to 1832.
	Crop in 1829.	Crop in 1832.	Crop in 1835.	Crop in 1838.	Crop in 1839.	Crop in 1842.	Crop in 1845.	Crop in 1848.	Crop in 1849.	
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	£
Amsterdam	659,200	560,000	540,000	303,000	240,000	225,000	136,500	132,000	154,500	75,800
Belfield and Vertrowen	588,800	720,000	684,000	445,507	447,376	334,320	198,000	203,625	40,800	106,340
Blenheim	756,500	600,000	678,400	585,500	372,800	248,000	169,000	240,000	248,000	87,880
Canefields	820,000	768,687	693,057	435,000	533,900	182,000	54,700	75,000	119,000	95,820
Cane Garden	375,000	285,600	225,000	108,700	32,256	40,000	7,200	Abandoned	...	34,500
Clairmont	340,000	320,000	270,000	142,500	139,500	123,000	130,300	134,000	165,000	39,960
Doornhaag and Enterprize	637,000	413,000	1,050,000	604,803	527,540	466,500	408,000	652,060	663,000	119,700
Elizabeth Ann	466,900	485,000	450,661	160,500	133,500	70,658	Abandoned	...	...	79,220
Endeavour	427,750	436,000	429,000	285,000	225,000	174,000	169,600	132,790	120,800	70,820
Henrietta	160,000	145,000	146,450	174,000	141,854	132,293	153,000	130,000	126,400	21,320
Maryville	487,000	348,800	435,000	305,600	178,500	76,500	80,412	170,200	160,000	45,940
New Osterbeck	313,300	311,750	233,654	90,000	87,000	35,000	54,500	7,300	Abandoned	29,960
Pleasing Hope	308,000	232,000	250,000	90,000	98,200	32,550	11,400	Abandoned	...	31,240
Retrieve	425,000	321,000	300,000	187,862	190,500	93,150	73,000	Abandoned	...	49,000
Richmond Hill	810,000	600,000	608,500	478,590	330,000	208,500	160,380	81,600	53,760	76,520
Success	804,800	544,000	727,500	506,353	358,494	187,170	205,500	232,500	255,000	89,880
Uniform	627,000	318,000	471,900	320,000	270,000	208,000	100,000	55,407	Abandoned	70,540
Vrow Anna	909,061	620,000	775,000	522,572	437,400	191,800	165,240	90,400	120,000	78,100
Waterloo	421,000	438,400	600,000	279,400	300,000	90,000	153,000	228,800	182,400	80,760
Wisselvaligheid and Maria Elizabeth	569,600	422,500	475,000	376,000	198,500	101,600	143,000	100,000	95,555	56,240
Total	10,905,911	9,371,237	6,350,122	5,242,320	3,242,320	3,220,041	2,572,932	2,665,682	2,504,215	1,319,340

	£	s.	d.
The total value of the Estates in Leguan	1,319,340	0	0
For these the following Compensation was awarded and received	270,444	12	10
	1,048,895	7	2

RETURNS of Produce since 1829, and Values of Estates in this District before Emancipation:

ISLAND OF WAKENAAM.

NAME OF PLANTATION.	SUGAR.									Value of Property from 1829 to 1832.
	Crop in 1829.	Crop in 1832.	Crop in 1835.	Crop in 1838.	Crop in 1839.	Crop in 1842.	Crop in 1845.	Crop in 1848.	Crop in 1849.	
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	£
Amersfoort	380,000	416,480	319,615	225,000	156,000	100,500	...	78,400	24,000	27,640
Arthurville	525,000	495,000	419,100	265,600	165,000	150,000	113,300	233,250	188,667	59,280
Bank Hall	408,000	356,500	409,500	307,700	295,455	223,600	192,000	169,640	102,400	52,380
Belle Plaine	717,000	676,000	575,550	324,017	208,752	210,000	150,000	325,600	148,800	77,260
Caledonia	750,000	698,000	652,500	727,400	358,400	237,150	322,000	430,500	433,000	63,500
Concordia	266,000	135,200	157,500	134,700	135,000	34,000	...	119,600	72,000	32,680
Domburg	150,000	258,000	180,135	91,000	84,000	60,000	237,000	150,000	98,000	20,720
Friendship	800,000	751,000	675,000	442,400	315,000	331,650	435,000	421,979	333,300	92,380
Good Success	352,000	330,000	350,000	257,277	136,500	105,000	190,500	203,250	175,500	52,100
Maria Johanna	468,303	383,858	257,781	350,469	313,780	163,493	145,620	163,962	84,800	65,000
Maria's Pleasure	675,631	713,000	600,000	268,800	315,000	247,500	365,300	438,750	260,500	75,680
Marionville	345,000	480,500	384,350	214,500	171,000	106,400	133,700	150,000	281,300	45,500
Meerzorg	985,000	988,806	595,547	394,800	314,091	256,500	198,400	206,900	105,600	104,760
Moor Farm	...	...	...	Not in Sugar Cultivation.		...	...	...	384,000	
Nieuw Bendorff	375,000	323,000	325,500	267,800	126,428	79,650	116,800	113,400	See Marionville.	30,140
Ridge	380,000	380,424	320,000	262,500	193,500	147,232	80,000	94,400	52,500	42,580
Sans Souci	400,000	416,000	400,000	217,500	169,500	84,000	150,000	236,800	145,500	46,940
Sarah	495,000	400,000	310,000	155,400	75,000	75,250	218,000	169,875	88,200	47,500
Palmyra	239,800	345,800	310,300	261,950	285,000	226,000	381,000	400,000	261,000	42,580
Zeelandia	651,700	605,435	658,000	655,500	500,761	331,700	365,91	354,772	344,875	80,380
Total	9,363,934	9,153,003	7,900,358	5,824,313	4,318,167	3,169,625	3,794,530	4,461,078	3,583,942	1,031,000

RETURNS of Produce since 1829, and Values of Estates in this District before Emancipation.

ESSEQUEBO COAST.

NAME OF PLANTATION.	SUGAR.									Value of Property from 1829 to 1832.
	Crop in 1829.	Crop in 1832.	Crop in 1835.	Crop in 1838.	Crop in 1839.	Crop in 1842.	Crop in 1845.	Crop in 1848.	Crop in 1849.	
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	£
Spring Garden	350,000	205,800	270,000	371,691	211,881	196,223	225,104	193,040	195,900	43,120
Good Intent	235,451	212,826	182,000	73,200	112,000	102,300	112,060	117,600	110,000	29,140
Aurora, Johanna, &c.	593,560	508,600	505,000	466,500	393,000	69,798	240,000	256,810	408,000	57,200
Hibernia and Fairfield	563,580	297,000	378,000	177,804	144,000	175,500	45,000	80,000	...	30,900
Vilvoorden	341,852	287,977	389,564	170,443	133,779	97,869	47,207	81,222	...	46,020
Middlesex	200,000	65,000	64,857	69,283	61,601	Added to Plantation Huis t'Dieren.				28,780
Huis t'Dieren	655,756	382,562	321,818	238,938	229,030	206,673	196,700	289,850	232,660	72,940
Adventure	190,673	204,840	306,899	149,099	123,496	51,660	101,191	110,169	69,662	28,920
Onderneeming	347,000	312,578	266,724	124,600	162,850	124,800	126,100	203,000	193,650	40,600
Batsebas Lust	432,651	495,737	569,679	367,811	277,253	283,000	220,864	...	78,904	79,740
Zorg	709,500	433,920	550,250	403,200	354,480	421,600	333,250	257,300	227,835	74,280
Golden Fleece	863,700	703,298	998,326	726,400	599,760	420,000	409,000	480,000	387,000	113,000
Perseverance	415,937	678,989	519,000	310,500	371,058	379,563	282,000	...	230,971	89,940
Cullen	561,396	450,433	464,640	272,300	...	214,500	181,000	350,000	300,000	56,440
Abraham's Zuill										
Annandale	323,400	357,000	385,000	175,210	164,800	162,000	312,000	208,000	...	54,000
Hoffran Aurich	279,900	118,700	410,000	278,600	133,000	160,500	226,500	120,000	96,000	54,720
Union and Alliance	352,000	300,000	370,000	233,250	46,750	135,000	210,000	325,600	156,000	39,160
Dageraad and Mocha	...	...	...	...	...	...	...	...	...	23,800
Westfield and Taymouth Manor	380,000	411,700	315,000	276,200	353,100	282,740	344,000	472,000	467,200	52,560
Affiance	759,000	650,000	560,000	431,280	317,900	354,200	526,848	289,000	429,000	80,580
Columbia	710,000	779,330	708,364	355,440	328,251	270,200	256,000	288,000	231,000	94,280
Aberdeen	360,000	340,000	410,200	363,000	331,050	360,000	297,360	16,400	...	43,500
Three Friends	364,000	300,000	399,000	319,500	285,000	237,000	231,500	74,200	119,800	38,541
Land of Plenty	885,000	750,000	753,240	548,550	601,200	436,800	482,400	360,150	215,980	100,360

ESSEQUEBO COAST—*continued.*

Name of Plantation.	Sugar.									Value of Property from 1829 to 1832.
	Crop in 1829.	Crop in 1832.	Crop in 1835.	Crop in 1838.	Crop in 1839.	Crop in 1842.	Crop in 1845.	Crop in 1848.	Crop in 1849.	
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Reliance	1,400,000	1,200,000	1,049,738	675,189	520,255	625,988	499,030	527,500	467,600	127,740
Mainstay	920,000	875,000	783,000	429,800	472,800	400,985	204,000	228,800	163,800	93,960
Anna Regina	1,050,000	679,200	1,602,036	819,318	752,500	563,200	858,200	750,000	1,300,000	211,480
Henrietta	380,000	170,000	300,000	141,000	179,000	139,500	96,000	168,000	161,500	45,240
Richmond	750,000	578,000	821,150	450,200	493,500	372,800	234,000	112,000	328,100	89,060
La Belle Alliance	1,300,000	680,000	800,000	355,500	410,000	311,500	347,648	300,000	405,600	107,900
Lima	1,460,000	651,000	900,000	572,079	490,000	350,400	217,600	230,400	275,800	141,040
Fear Not	385,000	210,000	236,600	132,800	184,000	129,600	141,120	111,000	143,050	33,640
Caledonia										
Coffee Grove	608,000	544,000	450,000	330,000	347,000	245,000	213,000	256,000	248,000	112,820
Sparta	127,000	279,000	352,000	243,000	219,000	228,000	343,800	279,000	220,800	66,740
Windsor Castle	818,700	850,000	831,810	708,000	724,470	390,000	596,820	...	219,200	96,020
Hampton Court	795,000	782,000	985,000	450,000	410,000	491,600	477,000	329,600	341,500	121,360
Better Success	6,000	325,000	277,500	322,000	205,000	306,384	284,000	...	162,400	54,400
Devonshire Castle	1,228,000	1,300,000	1,133,300	751,529	615,240	736,344	603,000	621,000	609,000	127,640
Walton Hall	616,000	740,000	620,000	375,000	256,000	176,400	15,400	221,200	92,400	85,880
Exmouth and Dartmouth	Coffee and Cotton.	...	...	...	...	...	...	...	...	46,180
Perth		...	...	...	...	...	...	...	...	33,120
Eliza		...	...	...	...	...	...	...	...	9,680
Evergreen		...	...	...	...	...	...	...	...	17,820
Somerset and Berks										
Dunbarton Castle		...	...	...	...	...	...	...	...	23,140
Aberdeen		...	...	...	...	...	...	...	...	6,140
Bellefield		...	...	...	...	...	...	...	...	9,080
Land of Promise		...	...	...	...	...	...	...	...	7,520
Hackney		Abandnd.								
Heathfield		Ditto.								
Maria's Lodge		Ditto.								
Total	22,518,656	19,310,490	21,139,695	13,658,214	12,044,004	10,609,647	10,482,702	9,106,841	9,227,412	3,041,141

N.B.—In addition to the above, the Coast of Essequebo produced in—

The year 1829 ...	101,866 lbs. of coffee.	The year 1838 ...	69,085 lbs. of coffee.
Ditto ...	89,798 lbs. of cotton.	Ditto ...	18, 80 lbs. of cotton.
The year 1832 ...	117,437 lbs. of coffee.	The year 1839 ...	141,688 lbs. of coffee.
Ditto ...	51,363 lbs. of cotton.	Ditto ...	6,300 lbs. of cotton.
The year 1835 ...	72,957 lbs. of coffee.	The year 1842 ...	24,777 lbs. of coffee.
Ditto ...	87,219 lbs. of cotton.	Ditto ...	„ lbs. of cotton.

The year 1845 the coffee and cotton cultivation entirely ceased.

N.B.—The total value of the sugar estates in this district was ...	£2,864,661
The total value of the coffee and cotton estates was.....	176,480
Total.....	3,041,141

Average Prices of Sugars for the following Years.

Years.	Average Price.	Weight of Cask.	Duty.	Gross.	Charges including Duty.	Profits.
	s. d.	cwt.	s. d	£ s. d.	£ s. d.	£ s. d.
1791.....	67 4	13	12 4	43 15 4	13 10 10	30 4 6
1792.....	69 4	„	„	45 1 4	13 10 10	31 10 6
1793.....	70 4	„	„	45 14 4	15 16 4	29 18 0
1794.....	54 0	„	15 0	35 2 0	17 11 0	17 11 0
1795.....	77 5	„	„	50 2 1	17 17 6	32 4 7
1796.....	77 6	„	„	50 1 0	17 17 6	32 3 6
1797.....	81 6	„	17 6	52 19 6	19 16 6	33 3 0
1798.....	86 0	„	19 4	55 18 0	21 0 4	34 17 8
1799.....	75 0	„	20 0	48 15 0	21 15 6	26 19 6
1800.....	74 0	„	„	48 2 0	21 15 6	26 6 0
1801.....	64 0	„	„	41 12 0	22 2 0	19 10 0
1802.....	54 0	„	„	35 7 5	22 2 0	13 5 5
1803.....	67 0	„	24 0	43 11 0	22 2 0	21 9 0
1804.....	80 0	„	26 6	52 2 0	26 6 6	25 15 6
1805.....	76 0	„	27 0	49 8 0	26 19 6	22 8 6
1806.....	68 0	„	„	43 14 0	27 6 0	16 8 0
1807.....	„	„	„	„	„	„
1808.....	„	„	„	„	„	„
1809.....	76 0	12½	„	47 3 3	25 9 9	21 13 6
1810.....	77 6	„	„	49 12 6	25 6 0	24 6 6
1811.....	67 0	„	„	45 5 0	28 2 11	17 2 1
1812.....	77 0	13	„	50 10 1	26 16 11	23 13 2
1813.....	92 0	„	„	60 19 2	29 10 10	31 8 4
1814.....	99 6	„	30 0	70 12 7	30 15 8	39 16 11
1815.....	99 0	14½	„	68 15 2	29 17 11	38 17 3
1816.....	81 0	„	27 0	58 5 8	27 15 6	30 10 2
1817.....	81 6	„	„	58 5 6	25 9 6	32 15 0
1818.....	84 9	„	„	60 1 11	27 1 4	33 0 7
1819.....	70 0	„	„	50 2 10	26 3 9	23 19 1
1820.....	67 6	„	„	47 9 11	25 8 11	22 1 0
1821	61 9	„	„	44 8 2	25 15 10	19 2 4
1822.....	59 6	„	„	43 6 8	25 15 7	17 11 1
1823.....	61 0	„	„	43 16 3	25 15 6	18 0 9
1824.....	59 0	„	„	41 17 11	25 0 7	16 17 4
1825.....	68 0	„	„	49 5 7	25 19 2	23 6 5
1826.....	„	„	„	„	„	„
1827.....	„	„	„	„	„	„
1828.....	„	„	„	„	„	„
1829.....	53 0	„	„	37 17 7	26 3 1	11 14 6

RETURNS of Produce since 1829, and Values of Estates in these Districts before Emancipation:

HOG ISLAND.

NAME OF PLANTATION.	SUGAR.									Value of Property from 1829 to 1832.
	Crop in 1829.	Crop in 1832.	Crop in 1835.	Crop in 1838.	Crop in 1839.	Crop in 1842.	Crop in 1845.	Crop in 1848.	Crop in 1849.	
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	£
Endeavour	352,200	285,200	275,500	220,000	161,280	48,600	155,000	168,187	178,000	33,140
Johanna	424,500	330,000	330,000	181,500	138,000	164,500	151,500	94,281	72,900	33,800
Hoop and Vries	240,000	157,200	300,000	106,400	139,200	81,200	84,200	108,000	81,252	40,680
Ruimzight	75,300	Abandoned	...	...	...	...	...	...	...	5,480
Total.....	1,092,000	772,400	905,500	507,900	438,480	294,300	390,700	370,468	332,152	113,100
TROOLIE ISLAND.										
New Tyle	174,000	119,700	Abandoned							
TIGER ISLAND.										
Jophienburg ...	280,000	295,500	261,000	161,000	168,400	81,200	112,000	...	127,400	35,600
Hamburg	577,250	458,400	444,850	301,900	179,630	218,247	138,000	131,160	148,500	90,500
Hoff van Holland.....	383,000	312,500	159,700	198,098	86,400	71,351	120,431	66,289	111,282	40,840
Total.....	1,240,250	1,066,400	865,550	660,998	434,430	370,798	370,431	197,440	387,182	166,940

The following is a TABLE of EXPORTS from Demerara and Essequebo, from the Year 1803 to 1809.

YEARS.	No. of Vessels.	SUGAR.			RUM.	
		Hhds.	Tierces.	Brls.	Puns.	Hhds.
1803	394	19,638	213	161	4887	
1804	71	2,161	71	19	504	
1805	200	15,839	212	129	3611	17
1806	221	19,337	474	804	4722	17
1807	198	16,857	138	643	5813	7
1808	202	18,383	168	578	6474	11
1809	191	17,065	210	286	6412	7

YEARS.	COTTON.	COFFEE.	MOLASSES.		
	Bales.	D. lbs.	Hhds.	Tierces.	Brls.
1803	46,435	9,954,610	311		
1804	6,318	439,520	311		
1805	21,2 2	2,295,701	1637		
1806	23,604	12,390,102	1694		
1807	26,314	4,399,141	4255	6	
1808	18,361	9,204,718	2544	72	71
1809	13.588	2,463,163	1521	19	9

TABLE showing an Account of the principal Staple Articles, the Produce of the Counties of Demerara and Essequebo, in the Colony of British Guiana, exported in each Year (1824 to 1839).

YEARS.	SUGAR.		RUM.		MOLASSES.	
	hhds.	cwts.	puchs.	gallons.	puchs.	gallons.
1824	47,783	764,528	15,826	1,899,120	24,787	2,726,570
1825	48,076	769,216	14,032	1,683,840	24,353	2,678,830
1826	44,494	711,904	14,942	1,793,040	21,134	2,324,740
1827	58,541	936,656	20,414	2,449,680	26,006	2,860,660
1828	56,155	898,480	19,013	2.281,560	27,145	2,985,950
1829	59,804	956,864	23,521	2,822,520	21,306	2,343,660
1830	58,653	938,448	29,209	3,514,080	19,585	2,154,350
1831	55,148	882,368	28,363	3,403,560	25,023	2,752,530
1832	51,628	826,048	17,292	2,075,040	35,694	3,926,340
1833	54,818	877,088	16,259	1,951,080	40,188	4,420,780
1834	47,893	766,288	17,721	2,126.520	31,125	3,423,750
1835	55,627	890,032	22,202	2,664,240	24,958	2,745,380
1836	55,663	890,608	20,132	2,415,840	33,343	3,667,730
1837	51,520	824,320	14,452	1,734,240	27,706	3,047,660
1838	42,737	683,792	15,064	1,807,680	22,243	2,446,730
1839	30,468	487,488	12,179	1,461,480	10,548	1,160,280

EXPORT of Staple Articles of Produce of Berbice from 1824 to 1839.

YEARS.	SUGAR.		RUM.		MOLASSES.	
	hhds.	cwts.	pnchs.	gallons.	pnchs.	gallons.
1824	6,348	101,568	1020	112,200	2590	259,000
1825	3,837	61,392	714	78,540	2051	205,100
1826	5,100	81,600	1394	153,340	1845	184,500
1827	7,397	118,352	2140	235,400	2729	272,900
1828	7,294	116,704	3004	330,440	1513	151,300
1829	6,635	106,160	3120	343,200	648	64,800
1830	9,763	156,208	4517	496,870	1124	112,400
1831	9,921	158,736	4938	543,180	2206	220,600
1832	11,103	177,648	5047	555,170	4356	435,600
1833	8,270	132,320	2241	246,510	4456	445,600
1834	6,607	105,712	2189	240,790	2288	228,800
1835	10,865	173,840	5311	584,210	2202	220,200
1836	14,754	236,064	4904	539,440	4745	474,500
1837	10,397	166,352	3508	385,917	3723	372,300
1838	11,333	181,336	3777	415,470	3263	326,300
1839	8,394	134,312	4087	449,570	1441	144,100

VALUE of Property annually created, and Moveable and Immoveable Property in British Guiana (excluding Slaves).

	£
Money expended in purchasing slaves (in the aggregate) at 120*l.* each	9,960,000
Sugar, 1,000,000 cwts, at 20s.	1,000,000
Rum, 4,800,000 galls. at 1s. 6d.	360,000
Molasses, 3,000,000 galls. at 10d.	125,000
Coffee, 4,000,000 lbs. at 7d.	116,666
Cotton, 3,000,000 lbs. at 7d.	87,500
Plantains at 4*l.* per annum	400,000
Animal food and fish, at 5*l.* per annum	500,000
Vegetable food, at 1*l.* per annum	100,000
Merchandise made	500,000
Income and sundries	600,000
Land cultivated and granted, 2,000,000 acres at 7*l.*	14,000,000
Ditto uncultivated, 32,000,000 acres at 2s. 6d.	4,000,000
Public property, including wharfs, and forts, barracks, churches, goals, roads (about 250 miles at 600*l.* per mile)	
Canals (30 miles of private canals, 12 feet wide by 5 deep, and 200 miles of drains, 2 feet wide by 18 inches deep, being necessary for an estate producing 700 hhds. of sugar	1,000,000
Private property, including dwelling-houses, clothes, plate, furniture	1,500,000
Wharfs, boats, rafts, merchandise, road, canals	3,000,000
Cattle, horses, swine	500,000
Gold and silver coin in circulation	20,000

	£
Total of property annually created	3,789,166
Total of moveable and immoveable property	24,020,000

Appraisements of Georgetown at several periods.

In 1789, Stabroek (Georgetown) contained 88 dwelling-houses, exclusive of stores. The only public buildings were houses, with kitchen and storehouse, for the commandant, surgeon-major, sexton, schoolmaster, and storekeeper-general, all requiring repairs. The population then was 238 white inhabitants, 76 free coloured, and 466 slaves; total, 780 persons.

Districts.	Year 1817.	Year 1820.	Year 1829.	Year 1839.
	dollars.	dollars.	dollars.	dollars.
Kingston	85,233	156,920	169,346	274,255
N. Cumingsburg	306,971	449,236	451 450	732,099
S. Cumingsburg	309,273	503,100	518,113	983,863
Robb's Town	341 600	445,133	356,400	512,369
New Town	162 900	215,466	120,666	247,039
Stabroek	167,226	205,190	142,450	185,064
Werken Rust	252.860	291,233	357,553	318,722
Charlestown	100,533	159,466	135,916	195,024
New Charlestown	...	...	...	98,670
	1,726,596	2,425,744	2,251,894	3,547,105

N.B.—This appraisement does not include Lacy Town, Freeburg, Newburg and Albert Town. Public buildings, churches, chapels, and public schools are also excluded.

Table of Population of Demerara and Essequebo at varying periods.

1620..... { A few Dutch settlers, with a varying population of African slaves.

Year.	Slaves.	Free Coloured and Black.	Whites.
	No.	No.	No.
1817.....	77,163	Unknown.	Not recorded.
1820.....	77,376	,,	,,
1823.....	74,977	,,	,,
1826.....	71,388	,,	,,
1829.....	69,467	6360	3006
1832.....	65,517		
1834.....	63,641		

1841:	Creoles of B. Guiana.	Africans.	Creoles of Islands.	Portuguese.	English, Irish, and Scotch.	French, Dutch, and German.	Coolies.	North Americans.	Not stated.
Demerara { Georgetown	11,427	1,231	4057	351	906	228	4	105	277
Demerara { Country	25,810	7,001	2050	1114	533	95	145	26	699
Essequebo	14,177	3,541	2397	734	384	65	53	19	124
Total in Demerara and Essequebo	51,414	11,773	8504	2199	1823	388	202	150	1100

TABLE of Population of Berbice at varying periods.

Year 1764.....3476 persons.....namely:	116 whites	
	1308 male negroes	
	1307 female do.	
	745 children.	
TOTAL.....3476		

ABSTRACT of the Berbice Slave Registration from 1817 to 1825.

YEARS.	Males.	Females.	TOTAL.
1817.....	13,802	10,747	24,549
1819.....	13,327	10,441	23,768
1822.....	12,007	10,349	22,356
1825.....	11,423	10,041	21,464

TOTAL Population of Berbice in 1827..... 21,802

DATE, DISTRICT.	Whites.			Free Coloured.			Slaves.		
	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.
1827:									
N. Amsterdam	130	49	179	324	530	854	695	681	1376
Country.....	289	55	344	130	177	307	10,202	8540	18,742
TOTAL.....	419	104	523	454	707	1161	10,897	9221	20,118

DATE, DISTRICT.	Whites.			Free Coloured and Black.			Slaves.		
	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.
1833:									
N. Amsterdam	161	95	256	527	779	1306			
Country.....	270	44	314	144	201	345			
TOTAL.....	431	139	570	671	980	1651	10,243	9077	19,320

1841:	Creoles of B. Guiana.	Africans.	Creoles of Islands.	Portuguese.	English, Irish, and Scotch.	French, Dutch, and German.	Coolies.	North American.	Not stated.
Town	2,349	324	574	8	152	28	1	6	18
Country.....	11,486	3699	821	112	197	29	140	3	202
TOTAL.....	13,835	4023	1395	120	349	57	141	9	220

A STATEMENT showing the Number of Plantations sold at Execution Sale, in the Counties of Demerary and Essequebo, by the Provost Marshal of British Guiana, from the 31st December, 1838, to the 31st December, 1849.

Date of Sale.	Names of Plantations sold.	In what County situate.	Amount sold for.	Names of Purchasers.	Remarks.
1839.			dollars.		
March 20	Two Brothers	Demerary	9,020	Moses Jacobs	Coffee. Since abandoned.
Oct. 3	Vries en Hoop	„	98,500	John Stewart, M.P.	Sugar.
1840.					
May 20	Batavier	„	1,000	John Mackay	Cattle farm.
Aug. 26	L'Harmonie	„	1,200	R. McLeod	Ditto.
Dec. 15	Two Brothers	„	1,036	R. S. Turton and S. Backer	Abandoned.
1841.					
Feb. 10	Le Desir	„	9,000	J. A. Holmes	Coffee. Estate since abandoned.
March 23	Saint Christopher	Essequebo	10,000	Boddaert and Co.	Sugar.
„ 31	Haymaroonie	Demerary	200	W. Knoot	Abandoned.
May 4	Mon Bijou	„	6,675	A. C. Newbigging	Coffee. Since abandoned.
„ 7	Peter's Hall	„	113,000	J. T. Osborne and T. C. Bagot	Sugar.
„ 25	New Bee Hive	„	50,000	T. Daniel and Sons	Ditto.
June 9	Sans Souci	„	3,030	Griffith Parry	Coffee. Abandoned.
„ 23	Ruimzigt	Essequebo	500	W. Henry	Hog Island. Cattle.
Oct. 6	Cullen	„	78,000	Thomas Murray	Sugar.
1842.					
March 23	Diamond	Demerary	1,260	W. A. Campbell.	
Oct. 11	John and Cove	„	81,500	J. Hopkinson	Sugar.
„ 12	Ostend	„	635	H. and W. Howes and Co.	Abandoned.
„ 14	Prosperity	„	1,200	Walmsley and Co.	Ditto.
Nov. 3	Bushy Park	„	120	J. Denovan	Ditto.
„ 9	Strathavon	„	6,000	J. W. Byar	Sugar. Since abandoned.
Dec. 5	Mon Bijou (Re-sale)	„	900	Lucy Allicock.	
1843.					
Jan. 19	½ Met. en Meerzorg	„	48,050	Gavin Fullarton	Sugar.
Feb. 2	Vive la Force	„	67,200	Thomas Blake	Ditto.

A Statement showing the Number of Plantations sold at Execution Sale, &c.—*continued.*

Date of Sale.	Names of Plantations sold.	In what County situate.	Amount sold for.	Names of Purchasers.	Remarks.
1843.			dollars		
March 8	Le Desir	Demerary	1,260	Ann Beete	Abandoned.
April 6	Chantilly	,,	6,500	W. S. Hamilton and Co.	Sugar. Since abandoned.
,, 25	Industry	,,	38,000	Parker and Sandbach	Ditto.
May 9	Sophia	,,	12,100	William Grant	Coffee. Since added to Bel-air.
,, 12	Retrieve	Essequebo	22,500	Parker and Sandbach	Sugar.
April 27	Belle Plaine	,,	15,500	Cruikshank and Co.	Ditto.
,, 28	Sans Souci	,,	18,500	Walter Napier	Ditto.
May 1	Hibernia	,,	25,000	H. G. Veitch	Sugar. Since abandoned.
,, 16	Java	Demerary	4,800	Murray, Brothers, and Co.	Coffee.
June 13	Richt door Gee	,,	2,280	S. B. L. Backer	Ditto.
Sept. 14	Philadelphia	Essequebo	2,000	T. Daniel and Sons	Sugar.
Oct. 4	Malgré Tout	Demerary	114,000	W. S. Hamilton and Co.	Ditto.
Nov. 21	Best and Waller's Delight	,,	41,000	John Forte	Sugar. Since abandoned.
,, 23	New Hope	,,	2,600	Murray, Brothers, and Co.	Ditto. Ditto.
1844.					
Jan. 8	De Kinderen	,,	2,400	Henry Brand.	
,, 8	West Half of Drill	,,	800	L. E. Heyliger.	
,, 8	Mes Délices	,,	1,000	J. Frankland.	
,, 15	Part of Dantzic	,,	1,355	J. N. Alstein.	
Feb. 7	Half of Prosperity	,,	605	Walmsley and Blacklock.	
May 31	Thomas	,,	36,000	Cavan, Brothers, and Co.	Sugar.
June 5	Ann's Grove	,,	3,550	John Croal	Ditto.
Aug. 8	Maryville	Essequebo	18,000	A. Wishart	Ditto.
Nov. 27	Belmont	Demerary	12,150	J. and T. Douglas and Co.	Ditto.
1845.					
April 7	Ostend	,,	565	C. A. Goodman	Ditto.
May 5	Walton Hall	Essequebo	8,200	John Kingston	Ditto.
,, 8	Non Pareil	Demerary	55,500	David Baillie	Ditto.
,, 9	Good Hope	,,	18,100	J. and T. A. Douglas.	Ditto.

A Statement showing the Number of Plantations sold at Execution Sale, &c.—*continued.*

Date of Sale.	Names of Plantations sold.	In what County situate.	Amount sold for.	Names of Purchasers.	Remarks.
1845.			dollars.		
June 9	Sans Souci	Demerary	300	George Tighe.	
„ 16	Haslington	„	1,750	Henry Brand.	
Aug. 4	Unity	„	500	Colony B. Guiana.	
„ 11	Caledonia	„	520	John Lane.	
Sept. 8	East Half of Perseverance	„	230	James Gordon.	
„ 29	Undivided Half of Union	„	365	Henry Brand.	
„ 29	Dantzic and West Half of Content	„	380	George Chapman.	
Oct. 13	Jacoba's Lust	„	1,340	James Forbes.	
„ 13	La Jalousie	„	50	John Kennedy.	
Dec. 8	Woodlands	„	125	J. F. Bee.	
„ 8	Rebecca's Lust	„	406	J. C. Inniss.	
„ 15	Fellowship	„	5,750	W. Davison	Sugar.
1846.					
Jan. 12	West Half of Bordeaux	„	33	Colony B. Guiana.	
„ 12	L'Espérance	„	80	Ann Parry.	
Feb. 16	L'Amitié	„	400	H. E. F. Young and D. Blair	
March 9	Sarah Johannah	„	650	Alex. Smith.	
„ 30	Genève	„	402	J. T. Hyne.	
April 13	East Half of Idroni	Essequebo	60	A. Marshall.	
May 11	Retreat	Demerary	1,010	George Booker.	
June 9	Kitty	„	14,100	Daniel Blair	Sugar.
„ 15	Waterloo	„	100	James Forbes.	
Aug. 31	Nismes	„	25,000	J. Campbell, sen., and Co.	Ditto.
Nov. 2	Belfield	„	2,000	A. T. Hubbard.	
„ 2	Vauxhall and Westminster	„	5,000	C. Liebau and G. F. Rocketer	Coffee.
„ 30	Neufchatel	„	51	James Forbes.	
Dec. 21	Vryheid's Lust and Sheet Anchor	„	32,500	W. R. Sandbach	Sugar.

A Statement showing the Number of Plantations sold at Execution Sale, &c.—*continued.*

Date of Sale.	Names of Plantations sold.	In what County situate.	Amount sold for.	Names of Purchasers.	Remarks.
1847.			dollars.		
Jan. 4	De Hope	Essequebo	100	L. Brunninghausen.	
March 3	Den Amstel	Demerary	10,150	William Lyng	Coffee. Since aband. Negro village.
„ 15	Felicity	„	50	J. F. Bee.	
April 26	East Half of Strangroen	„	245	James Forbes.	
„ 26	Belvidere	„	265	Alexander Duff.	
„ 26	Manilla	„	295	Alexander Duff.	
Nov. 3	Peter's Hall (re-sale)	„	26,500	H. D. Baillie, J. E. Baillie, and G. H. Ames	Sugar.
1848.					
Jan. 26	La Bonne Intention	„	30,200	Alex. McLaren	Ditto.
Feb. 21	Bounty Hall and Success	„	101	C. Lamertz.	
March 27	Malgré Tout (re-sale)	„	13,000	C. R. Croal and J. H. Reis	Ditto.
„ 28	Vrow Anna (re-sale)	Essequebo	5,000	J. Campbell, sen., and Co.	Ditto.
June 19	Letter T	Demerary	1,000	John Croal	Cattle farm.
„ 19	Abary	„	151	John Croal.	
„ 19	Catherine	„	380	Peter Rogers and Peggy Rogers.	
Aug. 1	Cuming's Lodge	„	16,100	Bosanquet and Naghten	Sugar. Since abandoned.
„ 21	Ann's Grove	„	7,000	John Croal.	
„ 21	Sans Souci	„	400	King Bristol and Peggy Rogers.	
„ 21	De Kinderen	„	20	James Forbes.	
Oct. 4	De Groote Diamant, or Great Diamond	„	9,050	M. Steele and G. H. Loxdale	Sugar.
„ 16	Belmont	„	500	H. J. Luyken.	
Nov. 13	Haag's Bosch	„	8,100	British Guiana Bank	Coffee.
„ 20	North Half of Supply	„	130	J. F. Bee.	
1849.					
Jan. 2	Beau Voisin	„	2,000	C. T. Visser.	

A Statement showing the Number of Plantations sold at Execution Sale, &c.—*continued.*

Date of Sale.	Names of Plantations sold.	In what County situate.	Amount sold for.	Names of Purchasers.	Remarks.	
1849.			dollars.			
Jan. 15	Broek en Waterland	Demerary	200	A. T. Hubbard.		
Feb. 12	Montrose	,,	9,300	J. Ewing and H. E. Crum...	Sugar.	
,, 12	Felicity	,,	5,000	J. Ewing and H. E. Crum...	Ditto.	
March 9	Amersfort	Essequebo	9,000	John Ross	Ditto.	
,, 20	Vive la Force	Demerary	3,000	T. Blake	Ditto.	
April 30	Eccles	,,	12,750	British Guiana Bank	Sugar.	Plantain.
,, 30	Henry	,,	3,410	British Guiana Bank	Coffee.	
,, 30	Profit	,,	10,220	Josias Booker	Sugar.	
May 4	Greenfield	,,	6,000	Robert Hick	Ditto.	
,, 22	Golden Grove	,,	2,500	J. B. Horsfall	Sugar.	Since abandoned.
June 4	Nabaclis	,,	1,000	Thomas Daniel and Sons.		
,, 4	Nooten Guyl	,,	2,550	Thomas Daniel and Sons.		
,, 4	Catherina	,,	500	S. Le Blanc.		
,, 4	Chantilly	,,	1,415	William Bruton	Ditto.	Ditto.
,, 6	Richmond Hill and Cheltenham	Essequebo	4,600	T. C. Fitzgerald	Sugar.	
July 17	Vilvoorden	,,	1,650	W. Canzius	Ditto.	
,, 30	Nieu Osterbeck	,,	1,900	R. M. Jones	Ditto.	
,, 31	Windsor Forest	Demerary	9,900	James Cook	Ditto.	
Aug. 2	Le Grange	,,	9,500	James Cook	Ditto.	
,, 3	Good Intent	,,	800	R. Henderson	Ditto.	Since abandoned.
Sept. 4	Clonbrook	,,	10,235	H. Clementson	Ditto.	
Oct. 1	Garden of Eden	,,	5,000	C. A. Fleming	Ditto.	
,, 3	One-third of Batseba's Lust	Essequebo	1,500	W. O Canzius	Ditto.	
,, 16	Aberdeen	,,	2,500	R. M. Jones	Ditto.	
,, 16	Better Success	,,	1,501	British Guiana Bank	Ditto.	
,, 30	Mary Ville	,,	6,750	Samuel F. Nurse	Ditto.	
Dec. 17	Belfield	Demerary	3,000	Maryanne Allt	Cattle farm.	

W. H. Holmes, Provost Marshal, British Guiana.

STATEMENT showing the Number of Plantations now under Sequestration, December 31, 1849.

When placed under Sequestration.	Names of Plantations.	In what County situate.	Cultivation.	Names of Proprietors.	Names of Sequestrators.
1849.					
March 8	Undivided Two-thirds of Batseba's Lust	Essequebo	Sugar	.....	Robert Ridley and W. O. Canzius.
Feb. 9	Maria Johanna	,,	,,	.....	W. O. Canzius and Samuel Bean.
,, 9	Henrietta	,,	,,	A. Pearson	Adm. General and J. M'Kenzie.
March 27	St. Christopher	,,	,,	.....	W. O. Canzius and James Stuart.
,, 10	Hoop on Vries	,,	,,	J. and W. Alexander	John Mackenzie and Thomas Clarke.
April 2	Success	Demerary	,,	J. T. White	James Stuart and J. T. White.
,, 7	Mainstay	Essequebo	,,	J. T. White	Donald McIntosh and J. T. White.
,, 13	Richmond	,,	,,	.....	Donald McIntosh and S. Bean.
,, 28	Sophienburg	,,	,,	.....	Colin Simson and Alexander Glen.
May 5	Lowlands	Demerary	,,	.....	James Stuart and Thomas Porter.
,, 5	Dochfour	,,	,,	.....	James Stuart and Thomas Porter.
,, 14	Vreedestein	,,	,,	.....	Peter Rose and James Stuart.
,, 16	Farm	,,	,,	.....	R. M. Jones and W. O. Canzius.
,, 21	Hibernia	Essequebo	Abandoned	.....	Alexander Duff and C. Seward.
July 11	Walton Hall	,,	Sugar	.....	W. Davison and J. W. Thompson.
,, 27	Friendship	Demerary	Abandoned	.....	A. E. Luthers and R Henderson.
1844.				.....	
October 21	Johanna	,,	Sugar.	.....	

W. H. HOLMES, P. M.

THE following ESTATES in BERBICE, belonging to the Estate of Laing, Brothers, and Co., as represented by the Administrator-General of Berbice, to be sold in September, 1850.

Friends and Invlugt, situate on the East Bank of the River Berbice, Sugar Cultivation.
Mara ,, ,, ,, ,,
Smythfield ,, West Bank of the Canje Creek ,,
Ma Retraite ,, East Bank of the River Berbice ,,
Schepmoed ,, ,, ,, Plantain.

W. H. HOLMES, Provost Marshal, British Guiana.

STATEMENT showing the Number of Plantations sold at Execution Sales in the County of Berbice, by the Provost Marshal of British Guiana, from the 31st Dec., 1838, to the 31st Dec., 1849.

Name of Plantation.	Nature of Cultivation.	Where Situate.	Date of Sale.	Purchaser.	Amount.
					Dollars.
Plantation Enfield	Sugar	East Bank River, Berbice, county of Berbice	1842.—2 Mar.	George Laing and James Laing, trading under the firm of Laing, Brothers, and Co.	8,200
Plantation Port Mourant	Sugar	Correntyne Coast of the county of Berbice	28 „	M. von Rader	32,000
J. L. Hintzen's undivided one-fifth in and to Plantation La Fraternité	Coffee	West Bank River, Berbice, county of Berbice	26 Sep.	S. A. Westerly and Co	1,910
Plantation Sandvoort	Coffee	West Bank River, Canje, county of Berbice	1843.—11 Oct.	Robert Semple	7,000
Plantation Dankbaarheid and Ruimzight	Coffee	West Bank River, Berbice, county of Berbice	1845—29 May	The Hon. Wm. Fraser, Claud Neilson, Boyd Alexander, and Joseph Simpson	2,600
The undivided half of Plantation Ma Retraite, comprising the lots formerly known as Plantations Dulcamara, Vriendschap, and Zorg met Vergenoegen, containing 1250 acres of land	Sugar	East Bank River, Berbice, county of Berbice	30 „	George Laing and James Laing, carrying on business under the firm of Laing, Brothers, and Company	10,100
Plantation Schepmoed	Coffee	Ditto	31 „	Ditto	2,450
Walter Murray's one-fourth part or share in and to Plantation Smythfield	Sugar	West Bank, Canje Creek, county of Berbice	1 Dec.	Ditto	100
Plantation Profit	Sugar	West Sea Coast, county of Berbice	4 „	Daniel and Sons	5,100
Plantation Nieu Hoop, containing 500 acres of land	Coffee	West Bank River, Berbice, county of Berbice	1846—3 Aug.	Nicholas Adian Nannings	300
J. Timmers' one undivided half of the Coffee Plantation Bestendigheid, containing 500 acres	Coffee	Ditto	4 „	Edwardus Ludovicus van Voorst Tot Voorst	850
William Kewley's undivided half of the Sugar Plantation Mary's Hope, consisting of lots Nos. 47, 48, & 49	Sugar	Correntyne Coast of the county of Berbice	10 „	The Estate of Joseph Bush	1,205

STATEMENT showing the Number of Plantations sold at Execution Sales in the County of Berbice, &c.—*continued.*

Name of Plantation.	Nature of Cultivation.	Where Situate.	Date of Sale.	Purchaser.	Amount.
					Dollars.
Robert Taitt's undivided half of the Sugar Plantation Mary's Hope, consisting of lots Nos. 47, 48, and 49	Sugar	Correntyne Coast of the county of Berbice	10 Aug.	The Estate of Joseph Bush.....	1,805
De Liefde and Zuid Holland, containing 1250 acres of land	Sugar	West Bank of River Berbice, county of Berbice	9 Sept.	The Estate of Thomas Edgelow...	3,500
Plantation Albion and Nigg, being lots Nos. 5 and 6, containing 500 acres of land each	Coffee	Correntyne Coast of the county of Berbice	1847—7 June	James Cavan, John Torrance, and Michael M'Chlery, trading under the firm of Cavan, Brothers, and Co. of London	1,000
Plantation de Kinderen, containing 500 acres of land	Coffee	East Bank River, Berbice, county of Berbice	7 „	Edward Hicks and John Peter van Rossum	100
William Kewley's undivided half of Plantation Mary's Hope, consisting of lots Nos. 47, 48, and 49	Sugar	Correntyne Coast of the county of Berbice	14 „	John Junor	1,200
Robert Taitt's undivided half of Plantation Mary's Hope, consisting of lots Nos. 47, 48. and 49	Sugar	Ditto	14 „	Ditto	3,050
Plantation of De Liefde and Zuid Holland	Coffee	West Bank River, Berbice, county of Berbice	14 „	George Allanson M'Kidd.....	530
Plantation Old and New Standvastigheid	Sugar	Ditto	14 Dec.	Thomas Williams.....	6,850
Plantation Hampshire and Williamsburg	Sugar	Correntyne Coast of the county of Berbice	15 „	James Cavan, John Torrance, and Michael M'Chlery, of London	1,000
J. Timmers' undivided half of the Plantation Bestendigheid	Coffee	West Bank River, Berbice, county of Berbice	1848—2 Feb.	Matthias Joseph Timmers	100
Plantation La Fraternité.....	Coffee	Ditto	26 June	Constant E. von Gorr and Abraham de Vries	2,205
Plantation Alna Clementia	Coffee	Ditto	3 July	Alexander Morrison.....	1,000
The undivided half of Plantation Bestendigheid	Coffee	Ditto	4 Dec.	Matthias Joseph Timmers	280

W. H. HOLMES, Provost Marshal, British Guiana.

STATEMENT of Plantations which were placed under Sequestration from 1st March, 1845, to 23rd January, 1849, whereof the Administrator-General, *ex-officio*, was Co-Sequestrator.

No.	Name of Estate.	Date of Appointment.	Name of Creditor Sequestrator.	Nature of Cultivation.	Date of Sale.	Price of Sale.	Name of Purchaser.	Loss during Sequestration.	Gain during Sequestration.	Remarks.
		1845			1846	Dols.		Dols. Cents	Dols. Cents	
1	Kitty	17 April	E. A. Manget, T. M. Manget	Sugar	9 June	14,100	Daniel Blair, mortgagee	5,864 28		
2	Vauxhall and Westminster	3 June	Adam Vyfhius	Plantains and Coffee	2 Nov.	5,000	C. Sieban and G. F. Procter	1,777 47		
3	Nismes	26 June	Alexander Macrae.....	Sugar	31 Aug.	25,000	Jno. Campbell, senior, and Co.	...	2,208 07	
4	Vryheid's Lust & Sheet Anchor	28 June	P. M. Watson	„	21 Dec.	32,500	W. R. Sandbach, mortgagee	11,884 29		
		1846								
5	Mes Délices	14 Jan.	James Inniss	Abandoned			Not yet sold			
6	Two Brothers	14 Jan.	James Inniss	„			Not yet sold			
					1848					
7	La Bonne Intention	28 Feb.	P. M. Watson, subsequently A. Duff.....	Sugar	26 Jan.	30,200	Alexander M'Laren ...	23,709 44		
8	Cuming's Lodge...	9 June	Thos. Kirkpatrick.....	„	1 Aug.	16,100	A. H. Bosanquet and T. Naghten, mortgagees	26,015 92		
		1847								
9	Great Diamond ...	14 Aug.	Matthew Steele	„	4 Oct.	9,050	M. Steele and G. H. Loxdale, mortgagees	10,635 85		
10	Haag's Bosche	18 Sept.	John Jones.....	Plantains and Coffee	13 Nov.	8,100	British Guiana Bank .	5,412 57		
				„	1849					
11	Beau Voisin.....	10 Nov.	George Tighe.....		2 Jan.	2,000	C. T. Viser.....	661 69		
12	Montrose	28 Dec.	P. M. Watson.....	Sugar	12 Feb.	9,300	James Ewing and Co., mortgagees	3,743 26		
13	Felicity	28 Dec.	P. M. Watson.....	„	12 Feb.	5,000	Ditto	...	5,869 51	
		1848								
14	Amersfort	8 Jan.	John Ross	„	9 Mar.	9.000	John Ross	...	52 35	
15	Vive la Force.	11 Jan.	Griffin Bascome.....	„	10 Mar.	3,000	Thomas Blake	1,844 01		

STATEMENT of Plantations which were placed under Sequestration, &c.—*continued.*

No.	Name of Estate.	Date of Appointment.	Name of Creditor Sequestrator.	Nature of Cultivation.	Date of Sale.	Price of Sale.	Name of Purchaser.	Loss during Sequestration.	Gain during Sequestration.	Remarks.
		1848			1849	Dols.		Dols. Cents	Dols. Cents	
16	Golden Grove.....	9 Feb.	James Stuart.....	Sugar	22 May	2,500	T. R. Horsfall	1,490 38		
17	Eccles	2 Mar.	Adam Vyfhius	,,	30 April	12,750	British Guiana Bank .	2,177 05		
18	Profit	21 Mar.	J. Alexander, subsequently R. Hick	,,	30 April	10,220	Josias Booker.....	609 22		
19	Greenfield	21 Mar.	Ditto	,,	4 May	6,000	Robert Hick	1,848 62		
20	Henry	21 Mar.	J. Jones, subsequently A. E. Luther	Plantains and Coffee	30 April	3,410	British Guiana Bank .	2,111 05		
21	Chantilly	8 April	Griffin Bascome.....	Sugar	4 June	1,415	W. Bristow.....	...	13	
22	Richmond Hill ...	29 April	C. Simson	,,	6 June	4,600	T. C. Fitzgerald	...	1,500 18	
23	Good Intent	22 May	Griffin Bascome.....	,,	3 Aug.	800	R. Henderson.....	43 09		
24	Nouvelle Flandre	27 May	P. Rose, subsequently J. Lane	,,			Not yet sold	...	1,135 92	Balance to 31st Dec., 1849.
25	La Grange	22 June	M. Steele, ditto H. S. Bascome	,,	2 Aug.	9,500	Jas. Cook, mortgagee .	3,093 38		
26	Windsor Forest...	22 June	Ditto J. Stuart, subsequently H. S. Bascome	,,	2 Aug.	9,900	Jas. Cook, ditto.....	6,027 33		
27	Clonbrock	6 July	T. Porter, subsequently A. Schroeder	,,	4 Sept.	10,234	H. Clementson	3,000 00		
28	Garden of Eden...	8 Aug.	J. Jones, subsequently J. C. Schade	,,	1 Oct.	5,000	C. A. Fleming	3,500 00		
29	Aberdeen	8 Aug.	R. M. Jones...	,,	4 Oct.	2,500	R. M. Jones	2,500 00		
30	½ Batseba's Lust ..	8 Aug.	W. O. Canzius	,,	3 Oct.	1,500	W. O. Canzius	1,500 00		
31	Better Success	23 Aug.	W. B. Pollard	,,	5 Oct.	1,501	British Guiana Bank .	1,500 00		
32	Maryville	4 Sept.	John M'Kenzie	,,	30 Oct.	6,750	S. F. Nurse	...		
33	Henrietta	14 Dec. 1849	John M'Kenzie	,,	,,		Not yet sold	1,978	3,500 00	Balance as on 31st Dec., 1849.
34	Zeeburg	12 Jan.	J. Dardier, subsequently J. H. Haley	,,	,,		Not yet sold	...	... 77 97	
							Total.....	122,926 90	14,344 13	

JOHN KENNEDY, Administrator-General of Demerary and Essequebo.

LIST of PLANTATIONS that have been under the sole Administration of the Administrator-General of Demerary and Essequebo, under appointment from the Supreme Court of Civil Justice, showing the Gain or Loss from 1st March, 1845, to 31st December, 1849.

Name of Estate.	Date of Appointment.	Name of Creditor Sequestrator.	Nature of Cultivation.	Date of Sale.	Price of Sale.	Name of Purchaser.	Loss during Sequestration.	Gain during Sequestration.
	1845.				dollars.		dols. cents.	dols. cents.
Vergenoegen.....	1 May	None	Sugar	...	...	Not yet sold	7,632 64	...
Noortgedacht	1 May	None	Coffee	...	...	Not yet sold	1,465 55	...
						TOTAL.....	9,098 19	

SUPPLEMENTARY STATEMENT to the foregoing, containing the following further particulars:—

Name of Estate.	No. of Acres in Cultivation.	Hhds. of Sugar.	Gallons of Rum.	Gallons of Molasses.	Lbs. of Coffee.	Plantains.	Starch.	Remarks.
						dols. cts.		
Kitty.....	243	76	4,027	7,247				
Vauxhall and Westminster	217½	...	...	...	27,048	1516 83		
Nismes	247	252	4,762	21,316				
Vryheid's Lust and Sheet Anchor...	270	178	3,302	24,450	...	391 16		
Mes Délices.....	Abandoned.							
Two Brothers	"							
La Bonne Intention	253	263	14,952	23,094	...	200 18		
Cuming's Lodge	218	459	34,025	20,044½				
Great Diamond	215	232	12,118	11,742	..	1132 72		
Haag's Bosche.....	461	...	...	...	15,597	26,841 brls.	1200 lbs.	106 48—Fruits.
Beau Voisin.....	150	...	...	...	4,667			

Supplementary Statement to the foregoing, &c.—*continued.*

Name of Estate.	No. of Acres in Cultivation.	Hhds. of Sugar.	Gallons of Rum.	Gallons of Molasses.	Lbs. of Coffee.	Plantains.	Starch.	Remarks.
						barrels.		
Montrose	232	205	10,482	22,846				
Felicity	177	289	1,850	26,284				
Amersfort	89	89	1,470	5,260				
Vive la Force	132	111	9,016					
Golden Grove	146	73	1,180	5,548				
Eccles	6	20	1,400	866				
Profit	55	32	2,294	1,705				
Greenfield	120	67	1,514	6,895				
Henry	134	...	...	...	2,985	6,110		
Chantilly	91	14	...	1,391				
Richmond Hill	130	107	1,959	8,917				
Good Intent	60	44	1,323	4,056				
Nouvelle Flandre	137	251	11,277	27,002				
La Grange	173	202	15,835	1,662				
Windsor Forest	233	163	18,717	...				
Clonbrock	144	78	4,165	6,937				
Garden of Eden	112	101	4,568	3,465				
Aberdeen	100	74	1,782	5,280				
1-3rd Batseba's Lust	1-3rd of 194	32	2,730	713				
Better Success	100	64	...	6,764				
Maryville	108	146	3.923	10,395				
Henrietta	110	79	440	5,720				
Zeeburg	94	130	922	11,199				
Vergenoegen	128	176	...	14,505	...	...	...	From 1st January, 1849
Noorgedacht	150	...	...	...	15,000	...	...	to 1st January, 1850.
TOTAL	5483½	4013	170,033	267,213½	63,297			

JOHN KENNEDY, Administrator-General of Demerary and Essequebo.

SYNOPTICAL STATEMENT of the Mortality in Georgetown, from the Year 1838 to the Year 1846, both inclusive, according to the Bills of Mortality and other authentic data; distinguishing the Deaths amongst the Seamen from those of the Inhabitants; showing also the Number of Cases from the Colonial Hospital—those from the Rural Districts being distinguished from those of the Inhabitants of the City; and the Number of the whole buried at the Public Expense.

YEARS.	BURIALS according to the Bills of Mortality, distinguishing the Sexes and Native Countries of Deceased, as far as ascertainable therefrom.																Number of DEATHS in the Colonial Hospital, as per Semi-Annual Returns thereof by Surgeon-General.												REMARKS.
	Sexes.								Native Countries.								Sexes.			Native Countries.							Residents of			
	Total Males.	Seamen.	Male Inhabitants.	Female ditto.	Not ascertainable.	Total Inhabitants.	Total Interments.	Ditto at Public Expense.	British Guiana.	Africa.	Madeira and Malta.	East Indies.	West Indies.	Europe, exclusive of Seamen.	American.	Not stated.	Males.	Females.	Total.	British Guiana.	Africa.	Madeira and Malta.	East Indies.	West Indies.	Europe.	America.	Unknown.	Town.	Country.	Unknown.	
1838	628	305	323	246	126	695	1000	59	309	31	2	...	86	80	5	182	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Yellow fever, commenced in 1837, very fatal to Europeans and seamen.
1839	410	155	255	208	152	615	770	158	219	38	9	4	44	52	3	246	...	...	...	...	...	...	...	...	...	...	...	...	...	...	As above, and small-pox, introduced from Barbadoes.
1840	301	72	229	200	100	529	601	194	214	36	38	2	50	53	2	134	...	...	...	...	...	...	...	...	...	...	...	...	...	...	As above.
1841	588	156	432	294	139	865	1021	306	454	75	99	...	105	81	7	44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	As above.
1842	596	136	460	315	187	962	1098	506	329	55	295	...	92	52	7	132	273	119	392	34	28	264	...	39	20	3	4	...	...	...	Yellow fever, measles, small-pox, and hooping-cough.
1843	307	8	299	177	129	605	613	227	314	30	64	1	75	43	10	68	122	36	158	47	21	45	...	26	14	5	...	90	47	21	Small-pox, measles, and hooping-cough.
1844	298	10	288	275	76	639	649	215	338	60	43	...	80	30	5	83	103	37	140	41	27	30	...	24	8	2	8	77	52	11	Ditto, and scarlatina—very fatal.
1845	420	14	406	274	51	731	745	288	404	103	32	7	99	35	8	43	152	52	204	75	44	22	11	32	8	4	8	104	94	6	Influenza, in July and Aug. —not very fatal.
1846	500	10	490	342	190	1022	1032	472	500	102	158	70	84	50	7	51	285	94	379	171	42	134	69	35	12	7	9	151	184	38	Hooping-cough in January and February.

RETURN of the Number of Location of Medical Practitioners in the Colony, and of the District and Population falling under their respective attendance.

District.	Residence.	Name.	Number of Estates.*	Number of Villages and Hamlets.	Population of Villages, Hamlets, and Estates.	Length and Breadth of District.	Remarks.
Arabian Coast...	Three Friends ...	Mr. Mushett	45	30	14,398	32 miles, extending back about 5 miles.	
	Hoff Van Aurich	Dr. Fraser					
	Huis t'Dieren ...	Mr. Stack					
Islands in the Essequebo, and adjoining	Wakenaam	Dr. Fairman	20	9	...	17 miles by 2 miles broad.	
	Wakenaam	Mr. Croal					
	Leguan	Dr. Broughton..	20	15	9,610	16 miles by 1¾ broad.	
	Tiger, Hog, &c. ..	.....	6	2		A small portion of former and 5 miles by 1½ occupied of latter.	
Demerara, West Coast	Anna Catharina ..	Dr. Bonyun†	19	6	6,243	25 miles by 5 miles deep.	
	Jalousie	Mr. Spence					
Demerara, West Bank of River	La Retraite	Dr. M'Farlane...	36	18	11,527	18 miles of estates by about 2 miles, besides the populated portions above.	1227 people in detached freeholds and at foot of Falls.
Demerara, East Bank of River	Peter's Hall.....	Mr. M'Aulay	21	13	8,515	About 16 miles.	
Demerara, East Coast	Felicity	Mr. Scott.....	48	16‡	23,516	About 35 miles in length, varying much in breadth.	Many populous villages and hamlets.
	Enterprise.....	Mr. Edmunds....					
	Mahaica	Mr. Miller					
	Mahaicony	Mr. M'William ..					

* Of the estates many are abandoned and are only scantily populated.

† Engaged in the duties of magistrate also.

‡ Besides 26 detached freeholds.

RETURN of the Number and Location of Medical Practitioners in the Colony, &c.—*continued.*

District.	Residence.	Name.	Number of Estates.*	Number of Villages and Hamlets.	Population of Villages, Hamlets, and Estates.	Length and Breadth of District.	Remarks.
Berbice Coast ...	Hope Town.....	Mr. Pollard	19	9	4,474	26 miles.	Medical men situate close together in centre of districts. Roads and approaches very bad, sometimes impassable.
	Fort Wellington	Mr. Fox					
Berbice River, West Bank	.....	.....	17	10	3,772	18½ miles.	No medical attendance.
Berbice River, East Bank	Sister's Village ..	Mr. M'Kenzie ...	20	9	4,206	10 miles.	Where inhabitants chiefly abound. — Intermediate space not included.
	Mara	Mr. Levin				9 miles.	
Canje Creek and adjoining	.....	Dr. Altham	17	21	5,687	10 miles.	
Corentyne Coast	Port Mourant ...	Mr. Wallace	3	11	3,545	11 miles from New Amsterdam, but 40 miles of coast.	Numerous villages without medical aid.
	Albion	Mr. Pietzzer					
Corentyne River ...	Skeldon	Dr. Van Holst...	2	1	686	3 miles.	
Essequebo, Barticа, and Settlement in Massaroony	Penal Settlement	Dr. Ringer	...	...	716	18 miles.	Medical officer confined to settlement.
Pomeroon	.....	.....	...	Many.	4,513	40 miles to where villages end.	No medical attendance.
Total.....	.....	23	288	163	101,408	338 miles in length, varying in breadth.	

* Of the estates many are abandoned and only scantily populated.

RETURN, showing the Number of Medical Men in Georgetown and New Amsterdam, and the Population dependent upon them for aid.

Town.	Name.	Population.	Area.
Georgetown	Dr. Blair ..... Dr. Hutson ..... Dr. Dalton ..... Dr. Johnstone ..... Dr. Manget* ..... Mr. Clifton ..... Mr. Forte ..... Mr. Houston..... Mr. Hutson ..... Mr. Bailey..... Dr. Driesen	25,508	998 acres, Rhynland.
New Amsterdam ...	Dr. Hackett ..... Dr. Cameron ..... Dr. Cramer ..... Dr. Koch	4,633	300 acres, Rhynland.
Total.....	15 †	30,141	

* Absent. † Several of these gentlemen attend estates.

The total Population in the County of Berbice is		27,003
" " "	Essequebo.....	24,925
" " "	Demerara	79,627
" " "	Total in British Guiana.....	131,555

ABSTRACT of the Census of the Population of the Colony of British Guiana, as taken on the 31st of March, 1851, in conformity with the Provisions of Ordinance No. 5, of the same Year, enacted by his Excellency Henry Barkly, Esq., Governor, and the Honourable the Court of Policy of said Colony.

TOTAL NUMBER OF INHABITANTS.

	Under 5 Years.		5 to 15 Years.		15 to 30 Years.	
	Male.	Fem.	Male.	Fem.	Male.	Fem.
Demerary	2417	2562	4,398	4,010	8,072	6,744
Essequebo.....	1511	1491	2,797	2,430	3,989	3,124
Berbice	1382	1350	2,656	2,190	3,255	2,888
Total rural population.....	5310	5403	9,851	8,630	15,316	12,756
Georgetown	1437	1603	2,696	3,192	3,859	4,104
New Amsterdam	266	247	465	633	751	670
Total urban population	1703	1850	3,161	3 ,825	4,610	4,774
Total population of British Guiana	7013	7253	13,012	12,455	19,926	17,530

Abstract of the Census of the Population, &c.—*continued.*

TOTAL NUMBER OF INHABITANTS.

	30 to 50 Years.		Over 50 Years.		Total.
	Male.	Fem.	Male.	Fem.	
Demerary	8,651	6,076	3828	3501	50,259
Essequebo	4,256	3,060	1097	1170	24,925
Berbice	3,357	2,768	1324	1200	22,370
Total rural population	16,264	11,904	6249	5871	97,554
Georgetown	3,073	3,212	966	1366	25,508
New Amsterdam	594	605	170	232	4,633
Total urban population	3,667	3,817	1136	1598	30,141
Total population of British Guiana	19,931	15,721	7385	7469	127,695

RACE.

	European.	Mixed.	African.	East Indian.	Aborigines.	Total.
Demerary	5,121	3,796	37,383	3401	558	50,259
Essequebo	1,758	1,845	18,548	2332	442	24,925
Berbice	450	707	19,300	913	1000	22,370
Total rural population	7,329	6,348	75,231	6646	2000	97,554
Georgetown	3,730	6,774	14,133	871	...	25,508
New Amsterdam	499	1,632	2,346	153	3	4,633
Total urban population	4,229	8,406	16,479	1024	3	30,141
Total population of British Guiana	11,558	14,754	91,710	7670	2003	127,695

The number of aborigines returned in the above table, includes only those who are located in or near to the cultivated portions of the colony. The postholder of Pomeroon has returned the number in his district, as per Table annexed; but in consequence of the wandering habits of the Indians, and the difficulty in reaching them, no exact account has been attempted elsewhere of the different tribes throughout the province.

To the numbers now given, at least 3000 must be added to represent those who are scattered among the tributaries of the upper Essequebo and Corentyne rivers. Of the total number (9000), it is probable that about one-third derive religious instruction at the various missions carried on by the Church of England at Kiblerie on the Mahaicony creek, at Bartica Grove on the Essequebo, at Cabacaboerie on the Pomeroon, and at Waramoerie on the Morocco; by the Roman Catholics at St. Rose, on the same creek; and by the Church of Scotland at Indiana, on the Supenaam.

Abstract of the Census of the Population, &c.—*continued.*

TABLE showing the Aboriginal Inhabitants of District No. 6, extending from the Tapacooma Lake to Point Bareema.

Tribes.	Pomeroon and Tributaries.					Morocco and Tributaries.				
	Men.	Women.	Boys.	Girls.	Total.	Men.	Women.	Boys.	Girls.	Total.
Warrows	22	18	15	12	67	174	182	129	117	602
Carrabese	74	87	60	58	279	30	38	30	26	124
Accawaeys	17	22	16	19	74	7	5	4	7	23
Arrawaaks	146	178	126	99	549	54	48	33	46	181
Spanish Arrawaaks	2	2	3	1	8	61	71	49	50	231
Total	261	307	220	189	977	326	344	245	246	1161

Tribes.	Winee and Tributaries.					Bareema and Tributaries.					Totals.
	Men.	Women.	Boys.	Girls.	Total.	Men.	Women.	Boys.	Girls.	Total.	
Warrows	142	138	86	90	456	248	255	136	132	771	1896
Carrabese	103	139	92	95	429	...	...	...	...	...	832
Accawaeys	49	49	34	35	167	10	13	12	16	51	315
Arrawaaks	10	12	9	9	40	9	9	5	6	29	799
Spanish Arrawaaks	21	21	24	13	79	...	...	...	...	...	318
Total	325	359	245	242	1171	267	277	153	154	851	4160

NATIVE COUNTRY.

	County of Demerary.				County of Essequebo.			
	Adults.		1 to 15 Years.		Adults.		1 to 15 Years.	
	M.	F.	M.	F.	M.	F.	M.	F.
Natives of British Guiana	11,003	11,150	5738	5760	4067	4630	3613	3466
Natives of Barbados	1,008	646	128	119	459	249	44	42
Natives of other West India Islands	715	409	54	50	577	477	10	13
African Immigrants	1,289	631	209	117	1010	597	280	148
Old Africans	1,507	1,418	...	...	666	667		
Madeirans	2,145	1,410	474	392	611	376	163	151
English, Scotch, Irish, Dutch, & Americans	404	62	5	3	210	43	12	4
Coolies from Madras	1,398	400	146	105	210	62	20	9
Coolies from Calcutta	1,082	195	61	26	1539	255	150	87
Not stated	...	...	...	...	7	1		
Total	20,551	16,321	6815	6572	9356	7357	4298	3920

Abstract of the Census of the Population, &c.—*continued.*

NATIVE COUNTRY.

	County of Berbice.				Total Rural Population.			
	Adults.		1 to 15 Years.		Adults.		1 to 15 Years.	
Natives of British Guiana	M. 4404	F. 4869	M. 3637	F. 3366	M. 19,474	F. 20,649	M. 12,988	F. 12,592
Natives of Barbados	199	97	17	11	1,666	992	189	172
Natives of other West India Islands	149	59	7	2	1,441	945	71	65
African Immigrants	1433	777	292	104	3,732	2,005	781	369
Old Africans	840	808	..	...	3,013	2,893		
Madeirans	153	61	19	11	2,909	1,847	656	554
English, Scotch, Irish, Dutch, & Americans	117	22	2	1	731	127	19	8
Coolies from Madras	339	116	42	37	1,947	578	208	151
Coolies from Calcutta	302	47	22	8	2,923	497	233	121
Not stated	...	...	...	...	7	1		
TOTAL	7936	6856	4038	3540	37,843	30,534	15,145	14,032

	City of Georgetown.				Town of New Amsterdam.			
	Adults.		1 to 15 Years.		Adults.		1 to 15 Years.	
Natives of British Guiana	M. 3634	F. 5709	M. 3675	F. 4375	M. 787	F. 1089	M. 666	F. 813
Natives of Barbados	866	682	95	100	70	68	14	11
Natives of other West India Islands	722	683	63	60	143	142	6	12
African Immigrants	88	55	8	8	81	26	8	7
Old Africans	488	518	...	...	88	83		
Madeirans	894	595	157	137	94	48	16	21
English, Scotch, Irish, Dutch, & Americans	686	256	47	36	140	27	7	4
Coolies from Madras	395	138	60	68	81	21	11	7
Coolies from Calcutta	125	46	28	11	26	3	1	3
Not stated	...	...	...	...	5	...	2	2
TOTAL	7898	8682	4133	4795	1515	1507	731	880

	TOTAL Urban Population.				TOTAL Population of British Guiana.			
	Adults.		1 to 15 Years.		Adults.		1 to 15 Years.	
Natives of British Guiana	M. 4421	F. 6798	M. 4341	F. 5188	M. 23,895	F. 27,447	M. 17,329	F. 17,780
Natives of Barbados	936	750	109	111	2,602	1,742	298	283
Natives of other West India Islands	865	825	69	72	2,306	1,770	140	137
African Immigrants	169	81	16	15	3,901	2,086	797	384
Old Africans	576	601	...	...	3,589	3,494		
Madeirans	988	643	173	158	3,897	2,490	829	712
English, Scotch, Irish, Dutch, & Americans	826	283	54	40	1,557	410	73	48
Coolies from Madras	476	159	71	75	2,423	737	279	226
Coolies from Calcutta	151	49	29	14	3,074	546	262	135
Not stated	5	...	2	2	12	1	2	2
TOTAL	9413	10,189	4864	5675	47,256	40,723	20,009	19,707

Abstract of the Census of the Population, &c.—*continued.*

NATIVE COUNTRY.—GRAND TOTAL.

Natives of British Guiana	86,451
Natives of Barbados	4,925
Natives of other West India Islands	4,353
African Immigrants	7,168
Old Africans	7,083
Madeirans	7,928
English, Scotch, Irish, Dutch, and Americans	2,088
Coolies from Madras...	3,665
Coolies from Calcutta	4,017
Not stated	17
TOTAL	127,695

PROFESSION, TRADE, OR CALLING.

	Public Officers.	Professional Men.	Merchants and Shopkeepers.	Clerks.	Agriculturists.	Agricultural Labourers.	Other Labourers.
Demerary	26	48	426	180	432	29,024	3,807
Essequebo	66	20	258	30	163	12,948	963
Berbice	1	32	110	8	174	11,760	270
Total rural districts	93	100	794	218	769	53,732	5,040
Georgetown	196	49	498	408	79	2,467	4,741
New Amsterdam ...	17	38	84	63	15	306	347
Total in towns ...	213	87	582	471	94	2,773	5,088
Total population of British Guiana ...	306	187	1376	689	863	56,505	10,128

	Mechanics and Artisans.	Domestic Servants.	Boatmen and Mariners.	Others variously employed.	No occupation, or none stated, including the ladies of the upper class.	Children not employed, being of tender age.	TOTAL.
Demerary	1696	1472	640	5,454	3,273	3,781	50,259
Essequebo	1067	860	135	495	2,232	5,688	24,925
Berbice	744	503	47	392	2,350	5,979	22,370
Total rural districts	3507	2835	822	6,341	7,855	15,448	97,554
Georgetown	2063	2067	446	4,011	3 404	5,079	25,508
New Amsterdam ...	417	645	137	570	1,004	990	4,633
Total in towns ...	2480	2712	583	4,581	4,408	6,069	30,141
Total population of British Guiana ...	5987	5547	1405	10,922	12,263	21,517	127,695

Abstract of the Census of the Population, &c.—*continued.*

RELIGIOUS DENOMINATIONS.

	Church of England.	Church of Scotland.	Roman Catholic Church.	Wesleyans.	London Missionaries.	Dissenters of what particular Denomination unknown.	Hindoos and Mahometans.	Not stated.	TOTAL.
Demerary	10,484	3,363	4879	3520	8,571	9,008	3394	7,040	50,259
Essequebo	13,154	3,287	1477	1053	449	1,295	2332	1,878	24,925
Berbice	5,293	2,287	253	487	2,595	758	420	10,279	22,370
Total rural districts	28,931	8,937	6609	5060	11,613	11,061	6146	19,197	97,554
Georgetown	8,869	2,073	2857	3139	3,041	2,512	842	2,175	25,508
New Amsterdam	1,987	654	472	219	848	66	49	338	4,633
Total in towns	10,856	2,727	3329	3358	3,889	2,578	891	2,513	30,141
Total, British Guiana	39,787	11,664	9938	8418	15,502	13,639	7037	21,710	127,695

Several inaccuracies having been discovered in the returns from which this Table is compiled, it must be looked upon only as an approximation to, and not as an exact account of, the different religious denominations in the province.

The Wesleyan Church, according to their own published statements, number 10,774, which is 2356 more than is exhibited in the Table; and this difference is probably included in the column for Dissenters, whose particular denomination is unknown. In the same column the inhabitants of Fort Island are placed, most of whom worship with the "Congregational Dissenters," or as they are denominated in the Table "London Missionaries," and should be added to their number.

In like manner, the mission at Bartica is improperly included in this column instead of that appropriated to the Church of England, and at the Penal Settlement, where there is a resident catechist of the Church of England, and services are regularly performed by the visiting chaplain—the whole establishment, with the exception of the Hindoo convicts, is included in the column where the particular religion is "not stated."

STATE OF EDUCATION.

	Able to Read and Write.	Able to Read only.	Not ascertained, or wholly illiterate.	TOTAL.
Demerary	4,136	4,885	41,238	50,259
Essequebo	782	1,062	23,081	24,925
Berbice	493	1,012	20,865	22,370
Total rural districts	5,411	6,959	85,184	97,554
Georgetown	6,501	3,958	15,049	25,508
New Amsterdam	1,040	549	3,044	4,633
Total towns.	7,541	4,507	18,093	30 141
Total, British Guiana	12,952	11,466	103,277	127,695

Abstract of the Census of the Population, &c.—*continued.*

NUMBER OF HOUSES.

	In Villages and Hamlets.				In Towns.			
	Inhabited.	Uninhabited.	Building.	Total.	Inhabited.	Uninhabited.	Building.	Total.
Demerary	5,075	340	257	5,672				
Essequebo	2,011	152	91	2,254				
Berbice	2,943	201	82	3,226				
Total rural districts	10,029	693	430	11,152				
Georgetown	...	...	...	...	4317	354	224	4895
New Amsterdam	...	...	...	...	873	184	46	1103
Total in towns	...	...	...	...	5190	538	270	5998
Total of British Guiana	10,029	693	430	11,152	5190	538	270	5998

GENERAL ABSTRACT.

TOTAL NUMBER OF INHABITANTS.

	Under 5 Years.		5 to 15 Years.		15 to 30 Years.	
	Male.	Female.	Male.	Female.	Male.	Female.
Demerary	3854	4165	7,094	7,202	11,931	10,848
Essequebo	1511	1491	2,797	2,430	3,989	3,124
Berbice	1648	1597	3,121	2,823	4,006	3,558
Total population	7013	7253	13,012	12,455	19,926	17,530

	30 to 50 Years.		Over 50 Years.		Total.
	Male.	Female.	Male.	Female.	
Demerary	11,724	9,288	4794	4867	75,767
Essequebo	4,256	3,060	1097	1170	24,925
Berbice	3,951	3,373	1494	1432	27,003
Total population	19,931	15,721	7385	7469	127,695

Abstract of the Census of the Population, &c.—*continued.*

RACE.

	European.	Mixed.	African.	East Indian.	Aborigines.	Total.
Demerary	8,851	10,570	51,516	4272	558	75,767
Essequebo	1,758	1,845	18,548	2332	442	24,925
Berbice	949	2,339	21,646	1066	1003	27,003
Total population of British Guiana	11,558	14,754	91,710	7670	2003	127,695

NATIVE COUNTRY.

	County of Demerary.				County of Essequebo.			
	Adults.		1 to 15 Years.		Adults.		1 to 15 Years.	
	M.	F.	M.	F.	M.	F.	M.	F.
Natives of British Guiana	14,637	16,859	9,413	10,135	4067	4630	3613	3466
Natives of Barbados	1,874	1,328	223	219	459	249	44	42
Natives of other West India Islands	1,437	1,092	117	110	577	477	10	13
African Immigrants	1,377	686	217	125	1010	597	280	148
Old Africans	1,995	1,936	...	...	666	667		
Madeirans	3,039	2,005	631	529	611	376	163	151
English, Scotch, Irish, Dutch, and Americans	1.090	318	52	39	210	43	12	4
Coolies from Madras	1,793	538	206	173	210	62	20	9
Coolies from Calcutta	1,207	241	89	37	1539	255	150	87
Not stated	...	...	...	...	7	1		
Total	28,449	25,003	10,948	11,367	9356	7357	4292	3920

	County of Berbice.				Total.			
	Adults.		1 to 15 Years.		Adults.		1 to 15 Years.	
	M.	F.	M.	F.	M.	F.	M.	F.
Natives of British Guiana	5191	5958	4303	4179	23,895	27,447	17,329	17,780
Natives of Barbados	269	165	31	22	2,602	1,742	298	283
Natives of other West India Islands	292	201	13	14	2,306	1,770	140	137
African Immigrants	1514	803	300	111	3,901	2,086	797	384
Old Africans	928	891	...	...	3,589	3,494		
Madeirans	247	109	35	32	3,897	2,490	829	712
English, Scotch, Irish, Dutch, and Americans	257	49	9	5	1,557	410	73	48
Coolies from Madras	420	137	53	44	2,423	737	279	226
Coolies from Calcutta	328	50	23	11	3,074	546	262	135
Not stated	5	...	2	2	12	1	2	2
Total	9451	8363	4769	4420	47,256	40,723	20,009	19,707

Abstract of the Census of the Population, &c.—*continued.*

NATIVE COUNTRY.—GRAND TOTAL.

Natives of British Guiana	86,451
Natives of Barbados	4,925
Natives of other West India Islands	4,353
African Immigrants	7,168
Old Africans	7,083
Madeirans	7,928
English, Scotch, Irish, Dutch, and Americans	2,088
Coolies from Madras	3,665
Coolies from Calcutta	4,017
Not stated	17
TOTAL	127,695

PROFESSION, TRADE, OR CALLING.

	Public Officers.	Professional Men.	Merchants and Shopkeepers.	Clerks.	Agriculturists.	Agricultural Labourers.	Other Labourers.
Demerary.....	222	97	924	588	511	31,491	8,548
Essequebo	66	20	258	30	163	12,948	963
Berbice..	18	70	194	71	189	12,066	617
Total.....	306	187	1376	689	863	56,505	10,128

	Mechanics and Artisans.	Domestic Servants.	Boatmen and Mariners.	Others variously employed.	No occupation, or none stated, including the Ladies of the Upper Class.	Children not employed, being of tender Age.	TOTAL.
Demerary.....	3759	3539	1086	9,465	6,677	8,860	75,767
Essequebo	1067	860	135	495	2,232	5,688	24,925
Berbice.....	1161	1148	184	962	3,354	6,969	27,003
Total.....	5987	5547	1405	10,922	12,263	21,517	127,695

RELIGIOUS DENOMINATIONS.

	Church of England.	Church of Scotland.	Rom. Cath. Church	Wesleyans.	London Missionaries.	Dissenters of what particular denomination unknown.	Hindoos and Mahometans.	Not stated.	TOTAL.
Demerary.....	19,353	5,436	7736	6659	11,612	11,520	4236	9,215	75,767
Essequebo.....	13,154	3,287	1477	1053	449	1,295	2332	1,878	24,925
Berbice.....	7,280	2,941	725	706	3,441	824	469	10,617	27,003
Total.....	39,787	11,664	9938	8418	15,502	13,639	7037	21,710	127,695

Abstract of the Census of the Population, &c.—*continued.*

STATE OF EDUCATION.

	Able to Read and Write.	Able to Read only.	Not ascertained, or wholly illiterate.	Total.
Demerary	10,637	8,843	56,287	75,767
Essequebo	782	1.062	23,081	24,925
Berbice	1,533	1,561	23,909	27,003
Total	12,952	11,466	103,277	127,695

NUMBER OF HOUSES.

	In Villages and Hamlets.				In Town.			
	Inhabited.	Uninhabited.	Building.	Total.	Inhabited.	Uninhabited.	Building.	Total.
Demerary	5,075	340	257	5,672	4317	354	224	4895
Essequebo	2,011	152	91	2,254				
Berbice	2,943	201	82	3,226	873	184	46	1103
Total	10,029	693	430	11,152	5190	538	270	5998

Grand Total of the Population of the Colony of British Guiana, as taken on the Night of the 31st March, 1851.

Grand Total, as per Census Returns			127,695
Aborigines, not included in the Census Returns, estimated at			7,000
			134,695
Ship's Company of her Majesty's steamer *Inflexible*	150		
Merchant seamen	295		
			445
Strength of the 2nd West India Regiment	369		
Strength of the 3rd West India Regiment...	298		
Strength of the 72nd Highlanders	187		
			854
Grand Total....			135,994

COMMANDEURS OF ESSEQUEBO.

1634.		J. V. de Goss.
1670.		Hendrick Roll; appointed by the Kamer Zealand.
1674.		Hendrick Roll; confirmed in office by the new General West India Company.
1676.	March 31.	Jacob Hars.
1678.	July 25.	Abraham Beckman.
1680.		J. P. De Jong.
1690.	Nov. 2.	Samuel Beckman.
1707.	Dec. 10.	Peter van der Heyden Resen.
1719.	July 24.	Laurens de Heere.
1729.	Oct. 12.	Herman Gelskerke.
1742.	April.	Laurens Storm van S'Gravesande.

DIRECTORS-GENERAL OF THE TWO RIVERS.

1751.		Laurens Storm van S'Gravesande.
1772.	Nov. 2.	George Hendrick Trotz.
1781.	Oct. 17.	Lieut.-col. Robert Kingston.
1782.	Feb. 10.	Count de Kersaint.
—	July 15.	Marquis de Lusignan.
—	Sept. 15.	Count de Kersaint.
1783.	Jan. 20.	General de la Perrière.
1784.	March 6.	J. Bourda, Provisional Governor.
1785.	Feb.	Jan L'Espanesse.

GOVERNORS OF BERBICE.

1666.		Matthys Bergenaar, Commandeur of Berbice
1669.		M. Crynsse, ditto.
1674.		
1684.		Heer Lucas Condrio, ditto.
1733.	April 22.	Bernhard Waterham.
1749.	April 8.	John Andries Lossner.
—	May 7.	John Frederic Colier.
1755.	Dec. 5.	Hendrick Jan van Ryswick.
1760.	April 4.	Wolfort Simon van Hogenheim.

1765.	Sept. 6.	Johannes Heyliger, Jun.
1768.	April 7.	Stephen Hendrick de la Sablonière.
1781.		While in the hands of the English and French, Berbice had the same Governors as Demerary and Essequebo.
1784.	May.	Peter H. Koppiers.
1793.		Abraham van Batenburg.
1802.	Dec.	Provisional Government, composed of two Members of the Council, appointed by the Batavian Republic.
1803.	Oct. 1.	Lieut.-col. Robert Nicholson, Acting Governor.
1804.	Aug.	Abraham van Batenburg, re-appointed.
1806.	Dec.	Lieut.-col. Nicholson, Acting Governor.
1807.	Sept.	General James Montgomery, Governor.
1809.	March.	William Woodly, ditto.
1810.	Jan.	Major-gen. Dalrymple, Acting Governor.
—	Dec.	Robert Gordon, Lieut.-Governor.
1812.	June.	Brigadier-gen. John Murray, Acting Governor.
1813.	Feb.	Robert Gordon, resumed.
—	Dec. 13.	Major Grant, Acting Governor.
1814.	June.	H. W. Bentinck, Lieut.-Governor.
1820.	Nov.	Major Thistlewayte, Acting Governor.
1821.	Jan.	Colonel Sir John Cameron, ditto.
—	March.	Henry Beard, Lieut.-Governor.
1825.	March.	Sir B. D'Urban, Acting Governor.
1826.	July.	Henry Beard, resumed.

GOVERNORS OF THE UNITED COLONY OF DEMERARY AND ESSEQUEBO.

1765.		Jan Cornelis van der Heuvel, Commandeur of the R. Demerary.
1789.	Aug. 18.	A. Backer.
1793.	March 31.	W. A. Baron van Grovestins.
1795.	May 5.	Provisional Government, consisting of two Members of the Court of Policy, in rotation.
—	June 29.	Anthony Beaujon, continued in office by the English on the capture of the colony.
1802.	Dec. 3.	Anthony Meertens, appointed by the Batavian Republic.

1803.	Oct. 1.	Lieut.-col. Robert Nicholson.
1804.	Aug. 18.	Anthony Beaujon.
1805.	Oct. 19.	Brigadier-gen. James Montgomery.
1806.		H. W. Bentinck.
1807.	May 9.	Brigadier-gen. James Montgomery.
—	Sept. 19.	Colonel Nicholson.
1808.	June 25.	Lieut.-col. Ross.
1809.	April 8.	Major-gen. Dalrymple.
—	May 20.	H. W. Bentinck.
1812.		Major-gen. Hugh L. Carmichael.
1813.	May 12.	Lieut.-col. Edward Codd.
—	May 17.	Brigadier-gen. John Murray.
—	Aug. 24.	Colonel Codd, acting *vice* Murray, appointed to Berbice.
—	Dec. 9.	Major gen. John Murray, resumed.
1815.	July 26.	Colonel Codd, acting *vice* Murray, gone to Islands.
—	Oct. 3.	Major-gen. John Murray, resumed.
1824.	April 26.	Major-gen. Sir Benjamin d'Urban, Lieut. Governor.

GOVERNORS OF BRITISH GUIANA.

1831.	July 21.	Major-gen. Sir Benjamin d'Urban, Governor.
1833.	May 7.	Lieut.-col. Courtenay Chambers, Acting Governor.
—	May 17.	Colonel Sir Charles Felix Smith, ditto.
—	June 26.	Major-gen. Sir James Carmichael Smyth, Lieut.-Governor.
1836.	Dec. 27.	Major-gen. Sir James Carmichael Smyth, Governor.
1835.	May 28.	Sir Lionel Smith, ditto.
—	June 17.	Sir James Carmichael Smyth, ditto.
1838.	March 6.	Major W. N. Orange, Acting Governor.
—	March 30.	Colonel Thomas Bunbury, ditto.
—	June 27.	Henry Light, Esq., Governor.
1840.	Dec. 8.	Sir Henry M'Leod, ditto.
—	Jan. 25.	Henry Light, Esq., resumed.
1848.	May 19.	Wm. Walker, Esq., Lieut.-Governor.
1849.	Feb. 12.	Henry Barkly, Esq., Governor.
1853.	May 11.	William Walker, Esq., Lieut.-Governor.

The following useful Public Officers are also appointed for the Colony of British Guiana.

Commissioners of Roads and Bridges throughout Town and Country, or, County Overseers.
Collector of Rum Duties.
Commissioners of Public Buildings.
Commissioners of Education.
Loan and Immigration Commissioners of Correspondence.
Justices of the Peace (under Ordinance No. 19, 1845).
Commissaries of Taxation.
Inspectors of Weights and Measures.
Committee of the Lamatra Canal.
Post-holders and Superintendents of Rivers and Creeks.
Sworn Accountants and Book-keepers.
Sworn Translators.
Sworn Land Surveyors.
Commissioners for administering Oaths to Affidavits (under Ordinance No. 21, 1845).
Licensed Auctioneers.
Licensed Weighers or Gaugers.

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THE END.

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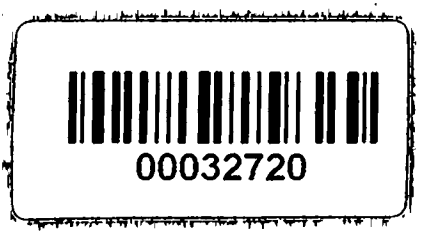
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